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OUR BEAUTIFUL NORTHLAND
OF OPPORTUNITY



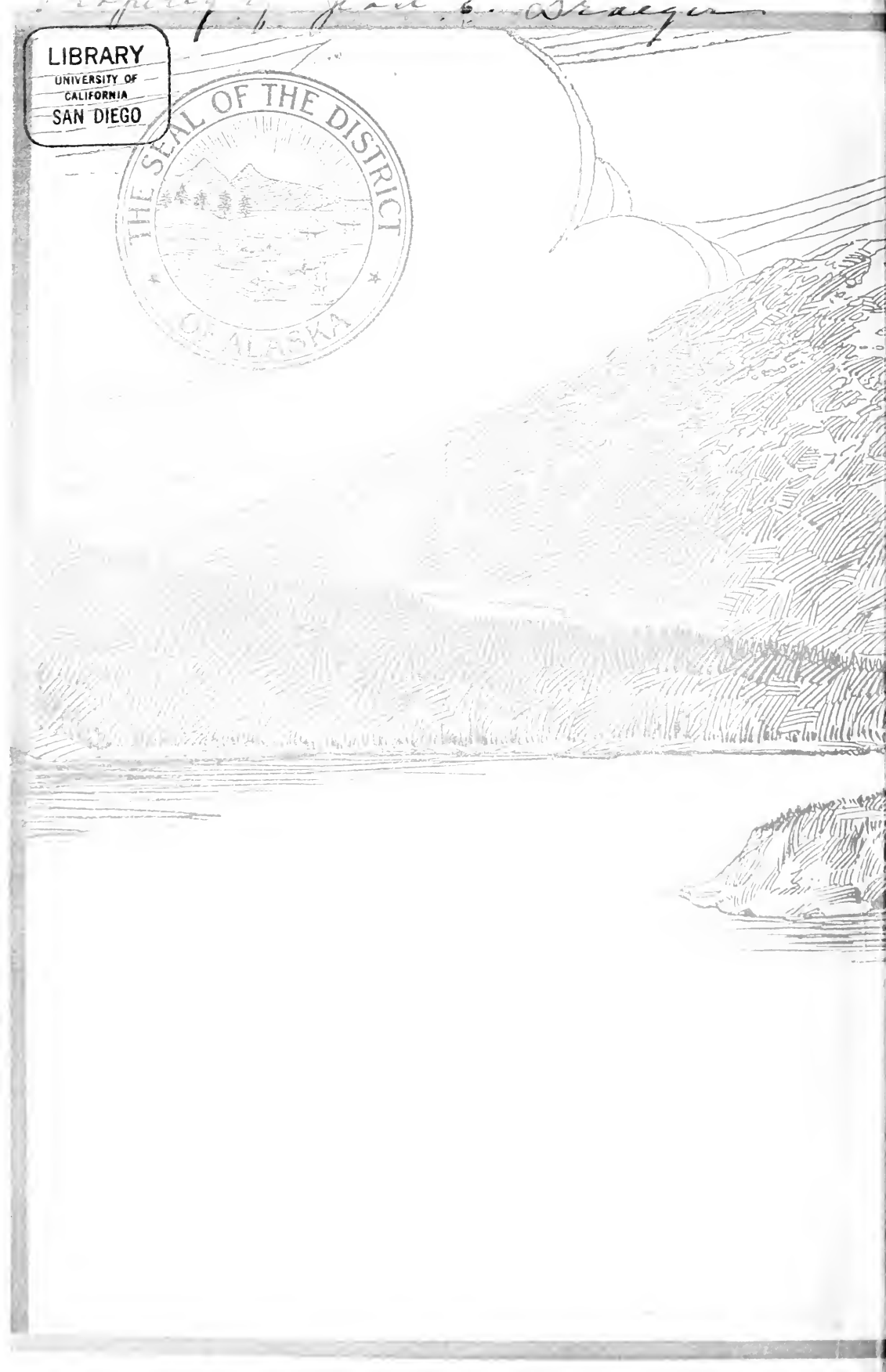
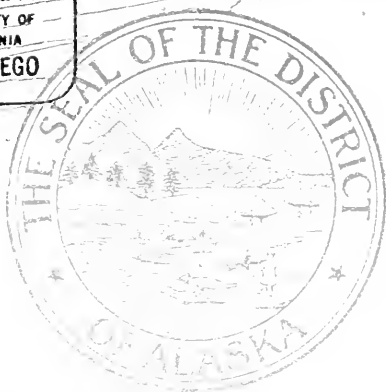
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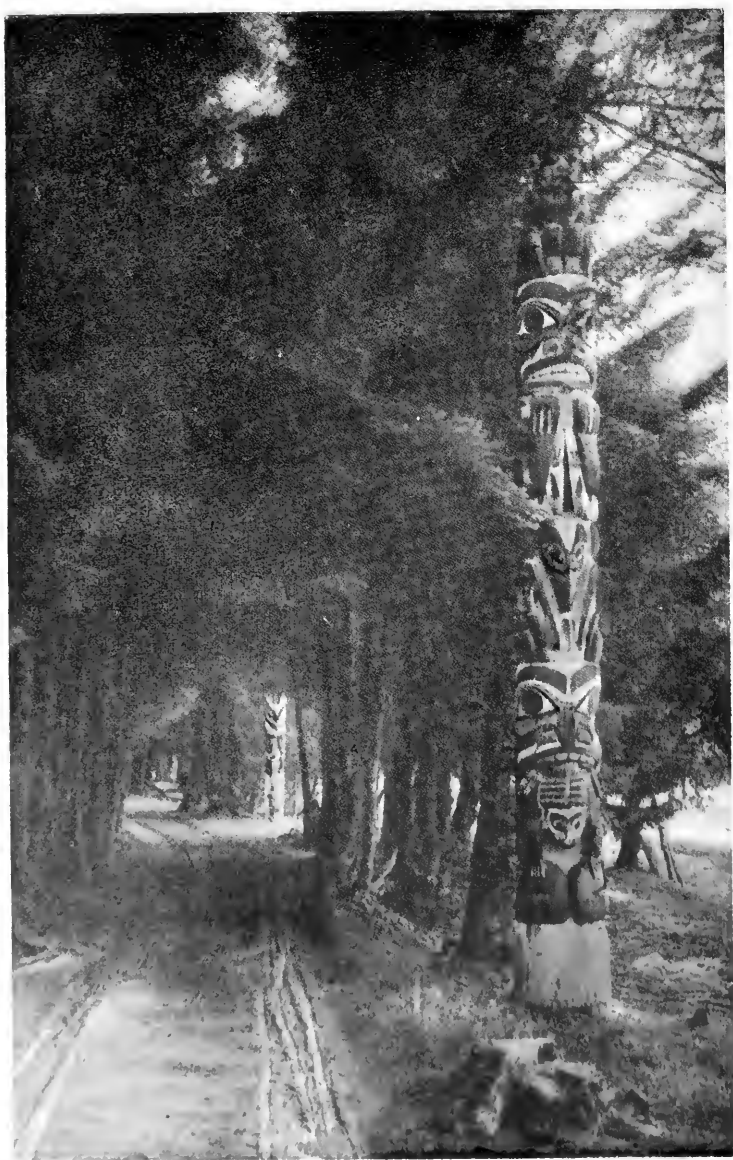
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(See page 226)

ALASKA

OUR BEAUTIFUL NORTHLAND OF OPPORTUNITY

A Description of Its Rivers, Mountains, Glaciers, Volcanoes, and Other Beautiful and Unusual Scenic Features and of the Rare Delights It Offers Travellers, Big Game Hunters, Mountain Climbers, Explorers; Its Towns and Pioneer Settlements; The Government Railroad and Mount McKinley National Park; Its Rich Resources; Its Openings for New Business Enterprises; Its Indians, Their Primitive Customs and Present Development; Its Romantic Early History When Russian, Spanish, and Other Nations Sought Its Wealth; the Gold Rush Days; Its Present Progress and Bright Future

BY
AGNES RUSH BURR

*With a map and fifty-four plates
of which six are in color*



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DEDICATED
TO
THE MEN AND WOMEN
WHO KNOW AND LOVE THE NORTH

PREFACE

IN offering this volume to the American people, the desire has been to bring to them an adequate picture, so far as is possible, of the great treasure house that is theirs on the northwest corner of the continent.

Alaska is a land of beautiful scenery and of almost inexhaustible resources. It is a land with a romantic history, and a land of interesting people, whether these be the sturdy pioneers and their descendants with their tales of early days, the Indians, and the rapid progress they are making on their march toward civilization, or the prospector with pack on back on his tireless quest for gold.

It is a land also of many opportunities. In size about one-fifth of the whole United States, in resources almost equal in variety to those of the entire country, Alaska as yet has but comparatively a small population and few industries. New business enterprises in almost countless number await the seeing eye and earnest hand of the shrewd business man and woman.

Alaska can be reached by modern, well-appointed steamers over a route that has few equals in the country or abroad for beauty of scenery. It can be travelled through by rail and other equally well-appointed boats. There is even a three-hundred-mile motor trip that can be taken in the heart of the country through majestic scenery not to be matched elsewhere on a motor highway in the world. There is no discomfort in travelling in Alaska and there is always natural beauty of a high order and, in many places, a touch with the primeval that is novel and fascinating. Alaska has been called "Our last

frontier," yet it is a frontier that can be viewed from steamer decks, observation cars and automobiles.

These facts it has been the desire to set forth in detail that the people of our country may realize and appreciate to the full all that Alaska has to give them. It is a great, enjoyable, health-giving playground. It is a rich storehouse of many things we need in the business world and in the home. It is a field to which we can turn with bright faces for new opportunities to work, and in the development of these opportunities develop afresh that hardihood, resourcefulness and initiative that have made the American people what they are to-day.

In gathering the material to present these facts, grateful acknowledgment is due the many who have so kindly and generously helped with information, with illustrative material, with aid in getting into sections otherwise inaccessible. Among these are many government officials both at Washington and in Alaska, some of them being Secretary Franklin K. Lane, of the Department of the Interior, Mr. E. C. Bradley, Assistant to the Secretary of the Interior, Mr. Thomas Riggs, Jr., Governor of Alaska; also Mrs. E. H. Harriman, who kindly furnished photographs of regions not penetrated yet by the professional photographer; Dr. Leonard S. Sugden, the well-known lecturer, whose many years of residence in Alaska, especially during the early years of its development, make him not only an authority on Alaskan matters but furnish the eye-witness viewpoint that is so interesting and valuable; Mr. J. L. McPherson, of the Alaska Bureau of the Seattle Chamber of Commerce, who has made the study of Alaska almost his life work; Mr. Kenneth Kerr of the Seattle "Railway and Marine News," and many others.

AGNES RUSH BURR.

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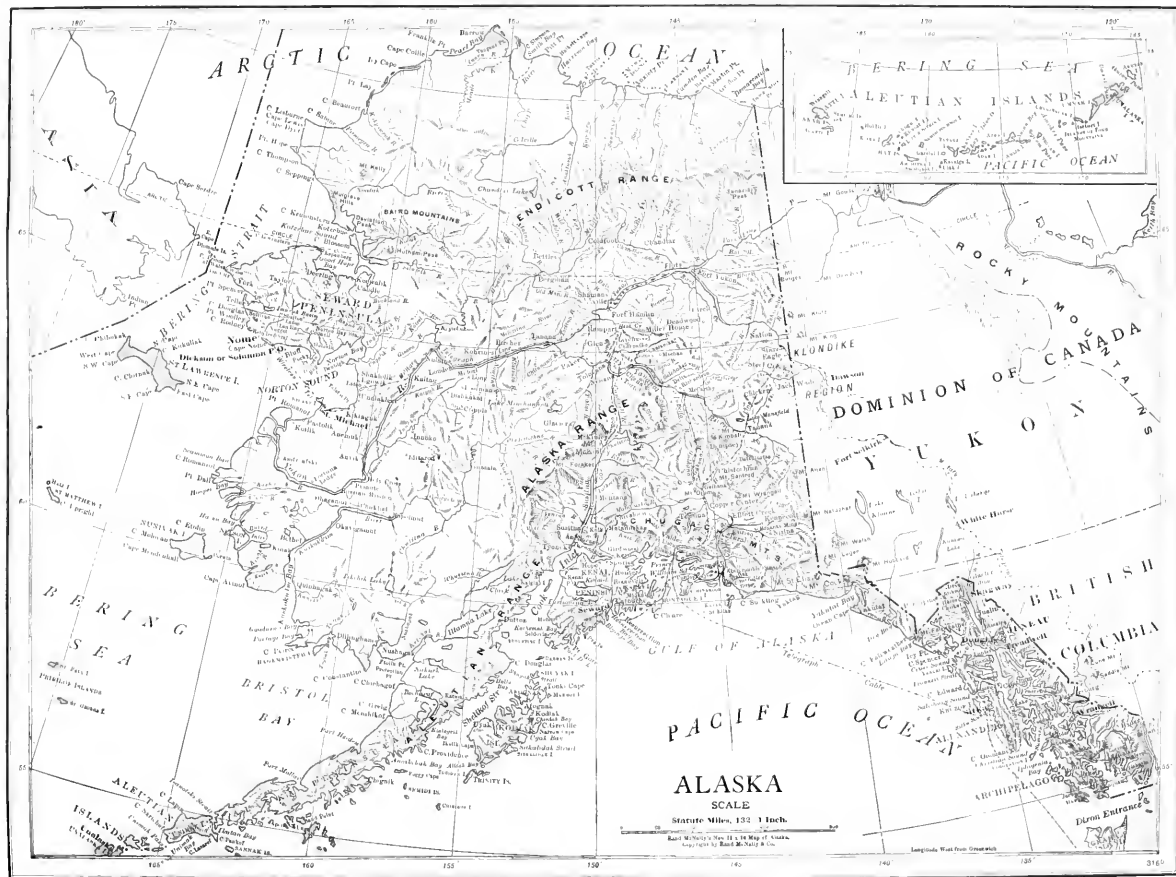
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ALASKA

OUR BEAUTIFUL NORTHLAND OF OPPORTUNITY

CHAPTER I

ALASKA AT A GLANCE

WHAT MUIR, BURROUGHS, HENRY GANNETT, AND OTHERS HAVE TO SAY OF ITS SCENERY. RUSSIA MAKING HISTORY ON THE WESTERN COAST WHEN THE COLONIES WERE STRUGGLING FOR INDEPENDENCE. THE TIDE OF WEALTH THAT POURS FROM ALASKA. FACTS ABOUT ALASKA GEOGRAPHICALLY THAT SURPRISE THOSE UNFAMILIAR WITH THE COUNTRY.

WILLIAM H. SEWARD, Governor, United States Senator, and Secretary of State during Lincoln's and Johnson's administrations, was once asked what he considered the most important act of his public career.

"The purchase of Alaska," was the prompt reply. "But it will take the people a generation to find it out."

It has taken them longer than that. Even yet to many the name brings visions of a region remote, inaccessible, associated in thought with the Arctic Ocean, Bering Sea, and the Arctic Circle, and, therefore, cold, desolate and uninhabitable. This understanding of Alaska is due largely to the pictures and stories first circulated about it of Eskimos, fur clothing, dog sleds, icebergs, snow mountains, and glaciers. When the gold rush of '98 focussed the eyes of the world upon it for a

time, the tales of hardship brought by those who returned only served to strengthen this belief in its inaccessibility and desolation. Thus in the general thought it still remains a place to be reached only with difficulty and discomfort, and of little interest or value. An illustration of this widespread misapprehension was given only a year ago by a well-known Eastern firm of map makers who wrote to a customer at Sitka that they could not ship his order before navigation closed there for the winter and so would hold it until spring.

For those who thus regard Alaska, there are in store many delightful surprises; for when they come to know the country as it is, they will find it a land of magnificent scenery, romantic history, primitive people of unusual interest, and with a population that wins admiration for the hardihood and initiative it has shown. For those who look for more practical things, the country has resources that astound by their richness, and opportunities for new industries so great they can scarcely be visioned.

Its scenery is unequalled in the known regions of the world. Addison Powell, a member of several United States' Geological surveying parties, says, "The scenery of Alaska is finer than Switzerland, the Austrian Tyrol, Venice, Vesuvius, and the Bay of Naples." Varied as this category is, Alaska can fulfill its requirements, for in different parts of the country can be found beauty that answers to all these descriptions. Its snow peaks and glaciers far surpass those of Switzerland. Sitka has been likened by many to Venice. Mt. Katmai far outrivals Vesuvius. The coloring and contour of the many harbors that indent the coast surpass in beauty the Bay of Naples. In making these comparisons there is no thought of boastfulness or the mere flaunting of superiority. Every part of this beautiful world has its individual

charm. But certain places have long been accepted as standards in the matter of scenic beauty. Alaska is compared with these that the unfamiliar may take form through the familiar.

The late Henry Gannett, President of the Geographical Society and a member of the Harriman Expedition, that interesting party of scientists, writers, artists and explorers, who, at the invitation of Mr. E. H. Harriman, spent the better part of a summer on his private yacht cruising in Alaskan waters for the purpose of studying the physical characteristics of the country, says of its scenery: "There are glaciers, mountains, and fiords elsewhere, but nowhere else on earth is there such an abundance and magnificence of mountain, fiord and glacier scenery. For thousands of miles the coast is a continual panorama. For the one Yosemite of California, Alaska has hundreds. The mountains and glaciers of the Cascade Range are duplicated a thousand-fold. The Alaska coast is to become the show place of the earth, and pilgrims from far beyond the United States will throng in endless procession to see it." And in conclusion he says, "There is one word of advice and caution to be given those intending to visit Alaska for pleasure, for sightseeing. If you are old, go by all means; but if you are young, wait. The scenery of Alaska is much grander than anything else of the kind in the world, and it is not well to dull one's capacity for enjoyment by seeing the finest first."

John Burroughs, who was also of this party, says, "Probably the finest scenery of the kind in the world that can be seen from the deck of a ship." John Muir, the great nature lover and glacial authority, who was likewise a member of the expedition, writes, "To the lover of pure wildness, Alaska is one of the most wonderful countries in the world."

All such praise seems exaggeration to those who do not know Alaska, but to those who have been privileged to see its beauty, such words are but simple truth. "The truth about Alaska is good enough," writes General Richardson of the government service in one of his reports. It is not only good enough, but it is so remarkably good that few believe it. They put it down as exaggeration. But some day, as Mr. Gannett says, the Alaskan coast will be the mecca for lovers of natural beauty the world over, and Alaska will be appreciated and enjoyed at its worth.

The spectacular features of Alaskan scenery are usually most dwelt upon,— Mt. McKinley, towering twenty thousand, three hundred feet in the air, the highest peak on the North American continent; the Malaspina glacier, covering one thousand, five hundred square miles, one-tenth of the whole area of Switzerland and greater than the area of Rhode Island, and with an ice wall on the ocean front estimated variously at from fifty to one hundred miles in length; the Yukon River, rising within a score or so of miles of tidewater, yet flowing more than two thousand miles to reach the ocean; weird, dim days when the sun scarcely peeps above the horizon, and gloriously bright, twenty-four-hour long days when it does not set; the aurora flashing its brilliant streamers across the midnight sky, "the lights when the spirits dance," say the Indians, and the strange, pallid mock suns that seem to be trying to make up in number what they lack in light.

All these are part of the marvelous and novel beauty that Alaska gives, but they are not the whole of the scenic offerings. From almost the time one starts Alaskaward, there is a succession of snow-capped mountains, a succession of glaciers. It is no unusual thing to count within the glance of the eye, as the steamer glides along



A VIEW OF THE INSIDE PASSAGE

the coast or through the channels of the Inside Passage, a dozen of these great ice rivers pouring down from the sky. There are waterfalls innumerable, lacing mountain-sides with slender lines of silvery loveliness amidst the deep green of spruce, or leaping in great foaming torrents from craggy mountain brows to glistening gray boulders, and filling the air with the thunder of their voice and the radiant glory of their rainbows. There are silent fiords lying placid under gray mountain walls; deep, dark canyons through which rivers boil over rocks and rapids. There are great stretches of pleasant valleys filled with grasses and slender, arrow-tipped spruce. And everywhere are wild flowers, — on the ruggedest mountains, mosses with delicate, tiny blossoms, growing to the very feet of the glaciers, even at times on the glaciers themselves, seeming to draw substance from moisture and air alone; in the woods and valleys and along the shores, single blossoms and scattered groups and veritable sheets of blue lupines, wild pink peas, rosy fireweed, bluebells, gold and white daisies, heavenly blue larkspur, and wild roses of a size and fragrance unknown elsewhere. Seemingly every blossom that nature has made grows here in a profusion that covers the landscape with color and fills the air with fragrance.

Had Alaska nothing to offer but its scenery, it still would have a worthy treasure to give. But it has much else.

To many Americans, its history is as unfamiliar as the features of its landscape. In fact it is thought by many to have no history other than that of its Indians and the annals of the argonauts that flocked thither upon the discovery of gold. But when the colonies on the eastern coast were struggling for independence, and later wrestling with the first problems of a new form of government,

Alaska had its shipbuilding plants, its foundries, its farms and cattle. In the early days of the last century, there were balls and banquets at Sitka that rivalled in richness of appointment and beauty of apparel the social gayeties on the Atlantic seaboard. The Russian is a lover of color and of brilliant display and the ceremonious festivities at Sitka were marked with the flashing of jewels, the rustle of silks, the soft richness of velvet and the sparkle of wine. Russian feet danced to Russian music on this northwest coast when gay belles were threading the mazes of the minuet on the shores of the distant Atlantic. Alaska's early history is a story of exploration, colonization, and industrial activity no less interesting than that of other parts of the country and quite as distinctive. On the eastern coast were Spanish, English and Dutch colonies with their characteristic life. Here on the west was another offshoot of the Old World with a life as novel, and which, until as late as 1867, was maintained in all its picturesqueness.

The native life of Alaska also has its interest. The Indians of the Territory are not dependent upon Uncle Sam as are those of the States. They do not live upon reservations. The government provides native schools, and helps in every way possible to the natives' best development, but the Indians are self supporting. They have quickly adapted themselves to the changes which the opening of the Territory has brought. They have their coöperative stores, their canneries and sawmills, their power launches, their neat, pretty homes. Even far away north toward the Arctic, the Eskimos have electric lights, and publish a magazine of their own devoted to the interests of their race.

The settlers of Alaska are a people to arouse admiration. They have fought against great odds and con-

quered. With packs on their backs, containing all the supplies they possessed, they made their way in the beginning over rugged mountain ranges and torrential streams. They struggled through marsh and tundra, sinking to shoe tops, to knees, to waist. In the winter, they wrestled with blizzards and long, sunless days. They had to depend entirely upon their own resources for subsistence and upon their own indomitable will for success. Disappointment after disappointment did not dishearten them. If one valley did not yield the treasure they were seeking, they went to another. Even after little settlements began to come, they still had much with which to contend. There were almost no transportation facilities in the usual meaning of the word, and the wilderness had to be daily conquered. It is this race of hardy, unconquerable pioneers and their descendants that people Alaska to-day. It is their resourcefulness, initiative, and indomitable will that is making the Territory forge ahead as rapidly as it is.

But though these are features to fire the imagination and make us realize, as perhaps we have not, the interest that lies for us in this great territory to the northwest, Alaska has a side that will make to the practical an even stronger appeal. It has resources that amaze. Of its gold, all have heard, though perhaps many do not realize the tremendousness of its output. The Treadwell group of mines alone have produced \$63,000,000. Over against this it is well to recall that only \$7,200,000 was paid for the whole of the Territory. But gold is only one of Alaska's productions, and though great as has been the output, indications begin to point to other resources that will soon outrank it.

But, so far, it occupies first place, and up to 1917 the total production amounted to more than \$293,000,000.

Including 1918, it will easily go over \$300,000,000.

Copper is perhaps the next richest mineral product. The mines of Alaska are the richest in the world, and the Kennicott Mine ranks fourth in the world's production and first in the low cost of operating. Since the purchase, Alaska's output of copper up to 1917 is more than \$91,000,000. Including 1918, this output will reach \$110,000,000.

These two are considered the leading minerals. Yet the earth is rich in many others. Coal, silver, lead, tin, iron, antimony, tungsten, graphite, cinnabar, platinum, molybdenum, marble, gypsum, used for plaster of Paris and fertilizer, barytes, of value in the manufacture of white lead, all are here, many in seemingly inexhaustible quantity. There are ledges of coal, in many places in plain view, many feet thick and extending for miles. On some parts of the coast and in some places in the interior, coal is washed up in plentiful quantity. Prospectors, miners, and residents pick up what they need as they need it. It is said that Alaska has more coal than Pennsylvania. The coal story of the Territory has not yet even its alphabet.

Alaska marble includes not only the ordinary black and white variety but several other kinds in which are the most delicate and lovely tintings of lavender, green, pale gold and other colorings, that lend themselves to exquisite furnishing effects. In quality it equals the most famous of Vermont's products, and it is being used almost exclusively in the construction of buildings on the western coast.

Chrome ore, used in the making of steel, has recently been discovered. Antimony, mined first in 1915, has already produced \$253,000, and tungsten, worked first in 1916, has yielded more than \$83,000.

The better known minerals such as silver, lead, tin, graphite and others are yielding steadily. There is said to be more tin in Alaska than in the British mines.

Yet in all these the ground has, as it is said, scarcely been scratched. Many of the vast mineral deposits of the interior are not worked at all owing to the present high cost of transportation which makes the getting in of supplies and machinery prohibitive. When this is overcome and the mineral wealth of Alaska begins to pour out in the flood of which these small beginnings show it is capable, it will astound the world.

Minerals seem naturally the wealth first thought of in connection with Alaska, perhaps because of the impression produced by its gold discoveries. But it has other resources equally valuable.

Running close to the value of its mineral output is the value of its fisheries. And if its mineral production is still in its infancy, its fish development is still more so. It has been estimated by a member of the United States Fish Commission that there are one hundred and twenty-five varieties of edible fish in Alaskan waters of which at present only twenty are being used. Even so, the value of the fish productions since the purchase until 1917 is \$300,000,000. The estimate for 1918 alone is \$55,000,000.

Next in value, perhaps, come the furs. Included in these are sealskin, fox of many kinds, mink, ermine, lynx, marten, bear, wolf, land otter, beaver, muskrat, and other minor skins. It has been estimated that the beaver skins alone, if protected for twenty years, would pay the cost of Alaska. Before the discovery of gold and the development of the fisheries, furs were Alaska's greatest resource. The Indians were the principal trappers, and the Hudson Bay Company and the Russian trading companies grew

wealthy off the lustrous skins brought by these indefatigable native hunters. But the Indians have gone about other business, and too, other resources have come to the front, and so though Alaska's furs are almost as abundant and every whit as beautiful as of old, they do not stand out so prominently as they did in days past as a source of wealth. But they are nevertheless one of the Territory's great offerings, and if all of Alaska's furs were suddenly swept off the market the world would decidedly feel the loss.

Of Alaska's timber little is heard. But one can steam for thousands of miles along its coast line, every foot of which is crowded densely with trees. One can ride for other thousands of miles up and down its navigable rivers and see the same story of densely wooded shores. It is estimated that there is an excess of eighty billion feet of merchantable timber in Alaska. This timber except in the southeastern section is not large. But it is quite suitable for paper pulp. And when it is remembered that we are dependent upon Canada for much of our paper pulp and, before the war, upon countries over seas, it is easily seen what the development of this industry in our own domain would mean to us. It would appreciably reduce the cost of every newspaper and magazine, of every bag and piece of wrapping paper we use.

The reindeer industry has but begun. Nature has freely provided food for them in almost unlimited quantity, and in return they give man a mode of travel adapted to the country, meat, skin useful in various ways, and many other by-products. In fact, it is claimed that every part of the reindeer is of use, and that in time large quantities of reindeer meat will be shipped to the States. It is looked upon as one of Alaska's most valuable coming industries.

Although agriculture in Alaska will never undertake to compete with agriculture in the States, there are sufficiently good agricultural lands to raise many things for home consumption. The farming area in Alaska has been computed to equal that of Pennsylvania, Maryland, Delaware, New Jersey, Connecticut, Massachusetts, and New Hampshire. Home products will greatly reduce the cost of living as well as provide an opening for those who both wish to farm and live in Alaska.

Alaska's commerce is also an asset to be considered. In one year recently it amounted to \$110,000,000. In that year it exported twice its purchase price in gold, six times the price in copper and three times in fish. No country of the world has such a showing per capita, especially when it is considered that this commerce is limited to a region reached by water transportation alone.

These are its known resources, its already started industries. But it offers many opportunities for the creation of new enterprises, and new sources of wealth are frequently coming to light. Just recently there have been discovered on the Pribilof Islands large bone deposits which according to the Secretary of Commerce, represent the accumulation of a century or more and are probably the largest known bone deposits in the world. Their fertilizing properties as shown by analysis are high, and the country is greatly in need of such material. The utilization of them will mean not only a fresh and almost inexhaustible source of supply of this necessary article but a new industry for Alaska, and opportunities for work that will ramify in many directions.

These facts show that Alaska is what one writer has called it, "an amazing young Territory." But astounding as they may seem to those unfamiliar with them, the story of Alaska's extraordinary features is not yet all told.

Its size is a matter of surprise to many. In area it is equal to about one-fifth of the United States. To fully grasp just how great is this extent of territory, a comparison with familiar places is helpful. Superimposed upon the map of the United States, Alaska covers Wisconsin, Illinois, Minnesota, Iowa, and the larger parts of Missouri, Kansas and Nebraska. When the size of these states is recalled, it will be seen what a tremendous realm Alaska is. It is really an empire, as it has been called.

In comparison with the eastern part of our country it equals in size the thirteen original colonies with Maine, Vermont, Ohio, Indiana, Tennessee, Kentucky and Michigan added. New England is lost in it. It is greater than the area of Norway, Sweden and Finland combined. It is three times the size of France.

Its range of latitude is as great as from New Orleans to Duluth, and its climate is almost as varied. It is not the uniformly cold country, even in winter, that has been believed. A comparison with the weather reports of various cities in the United States and Canada with those of representative Alaskan towns on the sixth of January recently showed that Sitka had the same temperature as Los Angeles and San Francisco. Thirty-three other towns were lower. Twenty places in the United States had a lower record than Dutch Harbor on the Aleutian Islands. Six places were lower than Eagle on the Yukon River. Twelve places were lower than Nome. Two places were lower than Tanana in the interior, and eighteen places lower than Valdez on the coast. Denver, Huron and Winnipeg were colder than any place in Alaska where weather records could be secured.

The town of Seward, the ocean terminus of the government railroad, is fifteen hundred miles nearer the Philippines than is San Francisco. The island of Una-

Alaska is as far west of San Francisco as this city of the Golden Gate is west of Washington, D. C. The shortest trans-Pacific route from Seattle to Yokohama runs north of the Aleutian Islands.

The shore line of Alaska is twenty-six thousand miles, a length greater than the circumference of the earth. This has a value perhaps not generally considered. It points of course to prolific fishing grounds both commercially and for the sportsman, but it means also bays, coves, inlets, and winding waterways innumerable that offer a pleasure ground for summer cruising unmatched in the world. The southeastern part of this great labyrinth of water highways is in the main protected from the ocean, and is as safe for small launches as any inland river or lake. The scenery is enchanting, game and fish abundant, wood plentiful. The most delightful summer holidays can be spent winding in and out of these channels and fiords. Not only can quietude and beauty be enjoyed but many places can be visited otherwise inaccessible. The larger boats cannot or do not go into these smaller bays and fiords. Glacier Bay, where is Muir Glacier, twenty of whose tributaries are each greater than the Mer de Glace; Rudyerd Bay, named for the English engineer Rudyerd who rebuilt the Eddystone lighthouse; the great Malaspina Glacier; deserted Indian villages with their grotesque totems, and many other such places off the beaten track can be sought out and enjoyed. That such trips are quite practicable is proven by the fact that John Muir travelled eight hundred miles from Wrangell along the coast in a canoe, going as far north as the upper end of Lynn Canal.

Such is Alaska at a glance, a region of beauty that enthalls the senses and of resources that amaze the mind. It is a pioneer land practically at our doors in the twen-

tieth century, a land in many sections as undeveloped as the great West seventy years ago, but whose opportunities can be reached easily and in comfort, and whose primeval solitudes, snow-crowned peaks, and majestic glaciers can be viewed from the deck chair or observation car.

CHAPTER II

FROM SEATTLE NORTHWARD

A WORD AS TO STEAMER ROUTES. THE BEAUTY THAT GREETES ONE AT THE VERY START. VICTORIA AND ITS INTERESTS. ALERT BAY AND A POTLATCH. TOTEM POLES. THEIR HISTORY AND MEANING.

IT would seem as if nature had especially prepared the highway leading to Alaska so that every part of a trip thither might be delightful. The Inside Passage, as the stretch of waterways leading to Alaska is called, has few if any counterparts in the world. There are but two places, it is said, that even lend themselves to comparison, one a similar passage on the southwestern coast of South America, and the other the fiords of Norway. The coast of South America is at present little known, and though Norway is famed for its beauty, those who have travelled there, and even many Norwegians themselves, admit that the coast of Alaska surpasses it for sublimity. But comparisons are not necessary. Each part of the world has its individual appeal, and the Inside Passage has a loveliness, a charm, and a grandeur sufficient to elate any lover of natural beauty.

There are various lines of steamers running from Seattle to Alaska. Some go only as far as Skagway at the head of Lynn Canal. Others go westward to Seward and Anchorage, the coast terminals of the government railroad. Still others go to Nome, farther north on Bering Sea. There are several American lines, one Canadian line, and among those running only to Skagway some

smaller boats whose fares are less than the larger steamers. So that one has wide choice. A good plan is to divide the trip between the American and Canadian boats, going by one and returning by the other. In this way one will be enabled to see all the ports along the coast, for the American boats do not stop at some of the Canadian towns nor the Canadian boats at a few of the American cities. But by using both lines all the towns can be seen, and they are so quaint and interesting none should be missed.

The Canadian Pacific line is delightful to travel upon. The boats are built with an observation room forward, with large windows and big easy chairs in front of each window. The arrangement is much that of a parlor car except that in place of the rather cramped quarters of a car is a good-sized room with cosy corners and an electric grate fire giving a cheerful glow if the day is chill.

The table service is that of a well-appointed home. Not only are the menu and cooking all that can be desired, but the china, silver and little things of the table are of the sort to satisfy the most fastidious.

Charts of the route are posted where the passengers can easily study them, also typed information about the places at which the steamer stops. Every detail that will add to the pleasure of the trip has been thought of. There is as well an atmosphere of courtesy and kindness upon the part of all in charge that increases the enjoyment of the voyage. In fact, the surroundings and the attentive thoughtfulness make one feel as if he were a guest in the home of a friend and robs the journey of much of the ordinary atmosphere of travelling.

One of the American lines also has its boats built on this plan of the observation room. It is an excellent idea in boat construction for such a trip as this. There is no

part of the journey where the scenery does not lure, and with this arrangement one can gaze at it entirely protected from sun and wind and quite at ease in a big, comfortable chair.

The waterfront at Seattle presents a vivid picture of bustle and beauty as the steamer waits for lines to be cast off. The buildings of the city dominated by the high Smith tower rise tier upon tier, impressive in their orderly, business-like aspect. Up and down the long line of piers, sombre dock buildings range side by side, attractive in their very air of homely usefulness. Across the harbor, green heights rise sharply, prettily bright with flowers and homes. A slight haze softens the outline of distant hills, and the red smokestack of a passing boat adds a vivid note of color.

The steamer glides smoothly from its moorings, so smoothly that it is the receding of the dock that gives the first intimation that the voyage has begun. Soon skyscrapers and piers and shipyards and the noises of the busy world of work are left behind. The shore sweeps out here and there into sharp points thickly wooded. To the west, the Olympic Mountains begin to appear, softly, hazily blue and crowned with snow. Here and there along the densely forested shores a column of smoke rises among the trees telling of industries busily providing for the needs of other parts of the globe.

Through a world of blue water, green shores, and mistily blue mountains, the steamer glides for hours. Under the brilliant sun the water sparkles as if encrusted with silver and sprinkled with diamonds. Over the tops of the deep green spruce and fir of the shore rise on both sides of the channel tier upon tier of blue mountains, the distant ones gleaming purely white on their summits. The blue of these mountains is a peculiarly soft, tender color,

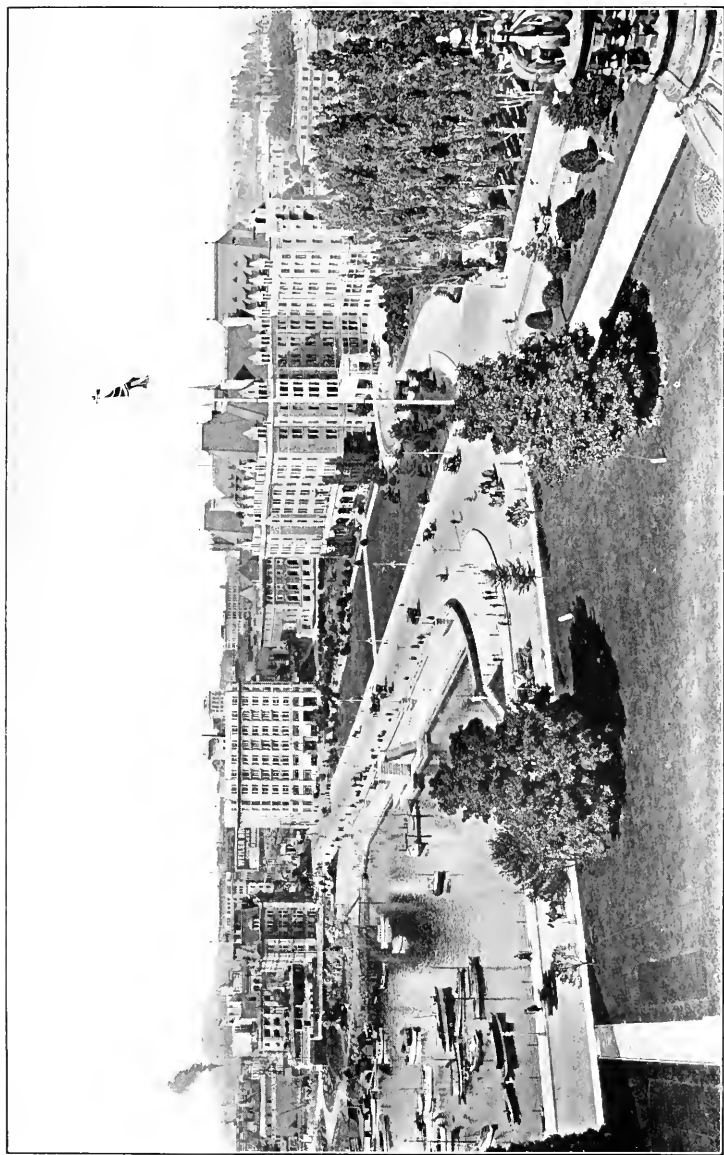
melting almost imperceptibly into the blue of the sky. Indeed, were it not for the mountain outlines, and here and there shadows, one could scarcely distinguish the mountains at times from the cloud scenery. But it is this very delicacy, like a faint pencilling, that makes them so lovely. And, shining more brilliantly than the clouds, are their snowy caps which call attention, like a clear voice, to their faint, subtle loveliness.

The hours slip by unnoticed in these enchanted waters and almost before one has realized how they have sped, the lower end of Vancouver Island appears and the steamer swings in for Victoria.

The approach to Victoria is particularly beautiful. A narrow winding channel leads between densely wooded shores, past a breakwater and islands with tiny lighthouses, and sweeps in almost a semicircle up to the dock. Looking backward, the eye is carried from the blue waters, the tiny lighthouses, the green shore, to an amphitheatre of blue and white mountains encircling the harbor, some rising above the banks of clouds with all the serene beauty of Fujiyama.

But the beauty of the scene is broken by a raucous voice rolling out over the water through a megaphone advising the tourists that the only way to see the town in the time at their disposal is in the cars of the owner of said voice. He stands, a lonely figure on a pier that stretches far out into the harbor, and his voice rolls on until it is drowned in the scornful toot of the whistle as the boat draws into the dock. But here another stentor takes up the tale, and as he begins on a foundation of interest already laid, and as he adds a clever jingle to his seductive appeal, he gets the most of the customers.

Victoria is a clean, bright, substantial town with wide streets and pretty homes set amidst beautiful flower



Photograph by Edgar Fleming.

VICTORIA, FROM HOUSE OF PARLIAMENT.

gardens. Indeed it is the greenness and floweriness of the city that makes its strongest appeal to many, though it has, too, the substantial Old World air that somehow an English town always seems to acquire no matter where planted.

Victoria is the capital of British Columbia. The Parliament buildings, the government offices and an interesting museum are the chief places of note. Beacon Hill Park is a delightful bit of woods, and the grassy downs of Oak Bay provide links for golfers.

The town is the outgrowth of old Fort Victoria, established by the Hudson Bay Company in 1842. Vancouver Island, upon whose southern point it lies, was discovered by Juan de Fuca in 1592. Vancouver surveyed its coasts in 1793, and it was named in his honor. The island is sparsely inhabited, though it is rich in minerals and timber, and has some good agricultural land; but the mining of coal is at present the chief industry.

Steaming out again through Victoria's pretty harbor, the boat now takes almost a straight course north across the Gulf of Georgia for the city of Vancouver. The water highway begins to expand, the shores fade into a blue line in the distance, but the merging of blue waters, blue shore lines, and the low blue hills is very lovely. Low points of bare rock run out here and there from the shore. Islands with tiny lighthouses on them dot the waters. Sail-boats lend their graceful beauty. The Olympic Mountains on the west and the Cascade Mountains on the east enclose the scene of silvery water and wooded shore with a background of snowy peaks. To the southeast, Mt. Baker, shadowy and serene, towers over all, a faint white cone assuring one it is a mountain and not a cloud only by its unchanging form.

As Vancouver is approached, the scenery grows wilder.

Great, towering mountains crowd down to the water's edge, and the snow-capped ones seem but a hand's throw away. Again the steamer winds through a narrow, picturesque channel up to its dock.

It is not so many years since Vancouver was a post of that "Honourable Company of Merchant Adventurers Trading into Hudson Bay," the strictly correct name of the Hudson Bay Company and ever so much more romantic and surely more enjoyable to work under than its present shortened form. The town was then a little straggling frontier settlement such as is even yet seen in some parts of Alaska. But is to-day one of the important business ports of the Pacific coast with wide busy streets, handsome buildings, and all that goes to make a modern city. Stanley Park stands perhaps as its best representative of progressiveness, for such things are usually the last expression of a city's civic spirit. This park is a fine pleasure ground for the people of almost a thousand acres. The giant trees of its virgin forest and the great Siwash Rock carved by nature into the resemblance of an Indian head are the chief objects of interest. A motor road winds along the shore, giving enchanting views of harbor and distant mountains, and leads to English Bay, a place of beach diversions, promenades, bathing, and all the gay life of an English seaside watering place.

Beyond Vancouver the wider waters of the Gulf of Georgia are soon left behind and the steamer enters one of the many narrow channels that thread the Inside Passage like silver ribbons. The vista ahead is much like that of a winding river, except that no river ever had such an enchanting background nor such beautiful shores. Point after point of land stretches out into the water, crowded densely with slender, spear-tipped spruce. Island

after island dots the water, forested with the same thick green. Wherever the eye wanders is an entrancing picture of silvery water, green shores, tree-crowned islands, and in the far view in every direction, majestic snow mountains.

At times the channel onward seems entirely blocked as if the boat were sailing into some little cove or land-locked harbor, but the vessel swings around a point and again an entrancing waterway lures between high green mountains and wooded islands, and again the serene, far-off snow mountains fill the background with their glittering peaks. Here and there a tiny lighthouse perched on a jutting rock gives a sense of friendly watchful guardianship.

Thus, threading shining waterway after waterway, gliding quietly by cape after cape, slender promontory after promontory, along mile after mile of densely wooded shores, past peak after peak that soars in unbroken succession thousands of feet in the air, sweeping into larger bays and lakelike expanses where shore line and mountain meet in a tender, ethereal blue, then again into narrow channels with luring, ever-changing, on-leading vistas, the hours slip by without hint of weariness.

An interesting stop after Vancouver is Alert Bay, a collection of frame buildings that one hesitates to call houses, and smells, noticeably smells. The buildings stretch along the shore of a curving blue bay beyond which rises a magnificent mountain range; and the enchanting view somewhat alleviates the odors.

Several piers run picturesquely out into the water, throwing black shadows that crimple and bend with the movement of the waves. The beach is well filled with Indian canoes, long, graceful, sharply pointed. A few "gas" boats ride at anchor, staunch and businesslike, far more profitable no doubt for fishing than the canoe but lacking its grace, beauty and touch with the primeval.

Back of the buildings that line the one side of the street, the land rises steeply, brightly green with grass and birch and alder and a few fruit trees with here and there the dark sombre foliage of the spruce and fir. Some well-kept gardens, a few lilac bushes, yellow broom in blossom, sunshiny dandelions, and other wild flowers make the one little street cheerful. Stately slow-pacing Indian women and Indian men in red blankets move slowly about and eye the visitor silently, curiously.

At the lower end of the village is the hospital and Indian graveyard, "a significant proximity," a tourist idly remarks. The graveyard is reached by a charming, tree-embowered walk along the blue waters of the harbor with delightful vistas caught now and then of the far away snowy mountains.

The little graveyard is among the trees on the sloping hillside with grasses growing almost as high as the picket fences that enclose the graves. In many of these enclosures is a totem pole, "probably the family tombstone," one tourist hazards.

On the way back to the dock, almost in the shadow of a totem pole, an Indian wrestled with a huge can of ice cream while overhead the wires of the government telephone service hummed in the trees. The edges of two civilizations are meeting in this little town in the wilderness and it will not be very long before the one will disappear before the other. Much that is picturesque and some that is artistic will go, but also will go other things not so desirable, among them, it is to be hoped, the smells.

A ceremony that was luckily stumbled on at Alert Bay was a potlatch. A stout Indian gentleman in white men's clothes and a big felt hat stood in a small building enclosed on three sides addressing some Indians gathered about him and a little group of others in red blankets

squatted near by on the grass. Their faces were absolutely impassive. Near him was a pile of blankets, and from time to time one of these was taken and bestowed on some one in the listening group.

It was much like a Christmas or birthday gathering at home except that the Indian is much more adept than his white brother in concealing that happy, expectant look worn when gifts are about to be bestowed, or the disappointment that creeps out despite staunch efforts if the gift is not what was ardently hoped for. When the blankets were all gone the crowd dispersed, still somewhat stolid, and the stout benevolent Indian went home much uplifted in spirit it is to be hoped, though much poorer in earthly possessions.

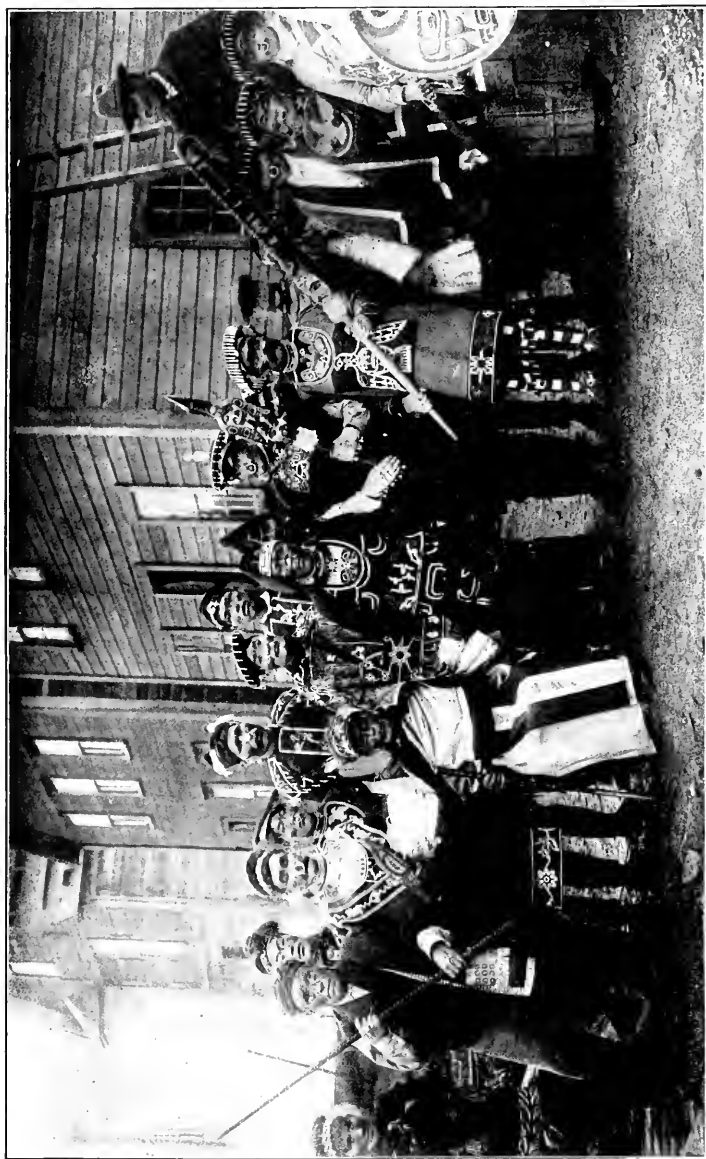
This sort of potlatch is far from being like the original ceremony in picturesqueness. The potlatch was at one time a great event in Indian life. It was a perfectly systematized distribution of gifts involving much more thoughtful consideration and balancing of obligations than the giving of a social entertainment by a member of the Four Hundred. The more frequently and liberally an Indian distributed his property the better was his standing with the others, the greater his chance of reaching the dignity of chief of the village, and the more was due him when some one else gave, results not unknown in communities other than Indian.

An ordinary member of a tribe confined his potlatch to those of his own village, but a chief usually sent out invitations to certain individuals of other villages. Before doing this, however, he called together his friends and relatives and with their help made out a list of persons to whom he intended to give and the articles for each. It was often the custom, however, before calling together these friends to quietly distribute his property among the

principal people of the village who, by etiquette, were required just before the time set for the potlatch to return the gift with interest. So that it may be supposed a potlatch was not always a season of rejoicing to those most intimately concerned.

When the day of the great event arrived, hosts and guests arrayed themselves in ceremonial attire. This ceremonial dress for a potlatch was in many tribes quite elaborate. If the occasion was for the purpose of raising a house, cutting out and erecting a new carved column, or undertaking some new industrial enterprise, and potlatches were given for all such reasons, the feasting and dancing were interspersed with work, and the gifts were presented only to the workers. But if it was a potlatch unconnected with any such enterprise every one received gifts. In both cases the distribution was the final act. The guests assembled, the goods were displayed on the floor, on poles, wherever they could be shown to advantage. The host sat or stood arrayed in his ceremonial attire and with a ceremonial baton. A herald blew a call and announced the opening of the ceremony in a speech extolling the liberality and the virtues of the host, and then called a name. An attendant took the present and placed it in front of the one to whom it was given. On the announcement of each name the host solemnly nodded his head and thumped on the floor with his baton. It was all very solemn, very formal, very rich in gay headdresses, blankets, beads, paint and moccasins. When all had been distributed, songs were sung, dances performed, and all was over.

With the advance of education among the natives, the potlatch is dying out. Those in charge of Indian schools make no direct attack upon Indian customs, but they endeavor indirectly to lead the natives to see for themselves



INDIANS IN THEIR POTLATCH COSTUMES

the unwisdom of some of their practices. The Indians make themselves poor by some of these potlatches, as they frequently give away everything of value they possess, and must start again at the beginning to acquire the necessities of life. The teachers lead them by deft questions and discussions to think practically upon this and to see if it pays.

Undoubtedly, to the Indian, the potlatch brings some reward of the spirit not sensed entirely from the practical side of life, for the Indian has a viewpoint not always grasped by others. John Muir tells that upon one occasion, when returning from a glacial expedition wet and cold, he was met by an old chief as wet and cold as himself who said, "As soon as I saw you coming back, I was ashamed to think I had been sitting warm and dry at my fire while you were out in the storm; therefore I made haste to strip off my clothing and put on these wet rags to share your misery and to show how much I love you."

Most of us would have thought we could have shown our love better and also a decidedly larger amount of common sense by having warm, dry clothing for the traveller. But, no doubt, the Indian got something of value from his act. The abolishing of Indian customs requires a reverent and careful hand.

More interesting, however, than the potlatch at Alert Bay are the totem poles, for here are the first to be encountered on the trip.

"Beware the Jabberwock, my son.
The jaws that bite, the claws that catch;
Beware the Jubjub bird, and shun
The frumious Bandersnatch."

one is inclined to mutter as he walks up and down the one street of the village and studies the totem poles in

front of the houses. "Curiouser and curiouser," he mentally continues to quote as he gazes upon these weird, uncouth figures upreared before almost every Indian home. For these strange columns that are encountered throughout the southeastern part of Alaska do, if one knows little totem pole lore, arouse all one's curiosity and put his wits on their mettle to explain.

Each tourist, unlearned in the legend of the totem, has his explanation. "A family crest," says one. "The family tombstone," says another. "The family genealogical tree," says a third. "The first efforts of the family genius," conjectures a fourth, recalling perhaps personal experiences. And a thin, querulous man who conscientiously took notes throughout the trip inscribed in his diary, "Tad poles. Strange, wooden columns decorated with attempted portrayals of men and birds. Indians poor artists. Could make better looking faces myself. Most of the folks call them totem poles. Never heard the word. Mean tad poles."

Little fault could have been found with one pole, a neutrally painted column surmounted with a graceful bird with outstretched wings. But few of the poles displayed this simplicity or charm. One had at the top a man wearing a close resemblance to the stovepipe hat of civilization. Below him stood a stout gentleman with a smile from ear to ear and with his hands folded complacently over his stomach. Evidently he had dined well. Beneath him was a figure with his hands also on his stomach but with a far less happy expression. His wife was a poor cook. Thus the alien reads the story. Many of the figures have long horse faces. There is a decided display of teeth. The noses of some were never seen on sea or land. The majority wore expressions resigned, belligerent or lugubrious. Few really happy faces were to be seen.

In colors the poles are as weird as in carving. One man had a complexion like a camouflaged boat. Sea green faces are not unusual. Great patches of blue about the eyes are not uncommon, and there is quite a prevalence of black on the cheeks and chin.

But as grotesque as these columns seem with their uncouth figures and strange colorings, much as they may arouse the conjecture and sarcasm and ribaldry of the tourist, they have to the Indian a poetic and sacred significance.

To him they are a picture, a poem, and a religion. The very uncouthness of the figures is intended and has a meaning. It carries his thoughts back to the dim beginnings of time when man and bird and beast were not, in his belief, as they are now, but far more wonderful beings. These figures stand for vast realms of imagination in which his fancy roams and creates what it will. The poles also mean family history, the prowess of ancestors, the traditions that incite to brave deeds, that help to endure trial with dignity, that make one a worthy member of the tribe.

Totemism is not confined to the Indians of Alaska but is found among many savage tribes in various parts of the world. Most tribes possess a set of beliefs and practices mythological, religious, ceremonial, artistic, and economic that grow from their attitude toward animals, plants, and inanimate objects. These beliefs and practices govern their mode of life and give rise to their forms of worship. Totemism in its original and widespread significance represented this combination of social organization and religious belief. This idea still lingers with the Alaskan Indians in the significance the totem has in regard to their family and the family myths and superstitions.

These Indians believe they are descended from some bird, beast, fish, or other object, and take this as their symbol. The emblem chosen is carved or painted on all belongings and is regarded as the visible manifestation of some powerful mystical being who has to do with their welfare. The totem carries with it certain obligations. Those with the same crest, for instance, cannot intermarry. It is, one might say, a symbolic way of expressing certain laws that hold in civilized communities.

The Alaskan totem pole is of three kinds. One is the family totem and is the one seen in front of the Indian houses. It represents the totem of the family and relations. Another is the death totem in which the ashes of the departed are placed. The third is the "story master" totem and illustrates some remarkable event.

Any one versed in totem lore can read these totems as he would a book. It is said that of the present tribes, the Hydahs best understand the totem and can read one, especially the story master totem, for an hour or more, whereas a member of some other tribes will get only the briefest and most superficial tale.

A tourist gazing at a totem with an eagle, a bear holding two whales, and with a seal below, would probably see in the grotesque carving merely something to idly speculate about or pass a joke on. But a Hydah Indian would read the story of two of his tribe belonging respectively to the Eagle and Bear families who went hunting seals, were drowned and turned into whales. It would bring to mind the belief that whenever a Hydah is lost at sea he becomes a whale and the kindly feeling this tribe has for whales. It is said that whenever these Indians see whales they throw overboard fresh water that the spirits of friends or relatives inhabiting these whales may have something fresh to drink.

Some of these totems are rather modern. One at Kasan, some fifty feet high, has at the top an eagle, the totem of the great chief Skwall; then the head of a Russian saint, that of the archangel Michael; then, a Russian bishop, and, lastly, that of a white man surmounted by an eagle. It was erected to commemorate the baptism of the chief of the family into the Russian church at Sitka.

The different tribes have their quaint legends, too, as to the original adoption of these symbols. The Hydahs tell a story of the deluge in which all things were drowned but the raven. This bird, while sitting on the beach after the waters had subsided, saw a huge shell thrown up by the waves. After much effort he opened it and out came a number of small people who warmly thanked the raven for their deliverance and promised always to care for him. Thus the Hydahs came and this is the reason the raven is their principal totem.

The eagle, the bear, the frog, and other animals seen on the totem poles usually have some myth connected with their appropriation by the family that claims them. These myths are almost innumerable, and when one can read a totem as the Indians read it, he finds it a poem of the primeval, wild in its imagery, simple in its beauty, and inspiring in its truth. The ravens that soar through the blue, Alaskan sky, the eagle that swoops over the waters and up into some dead tree along shore, the bear that prowls through the woods, take on a new significance. He begins to see with Indian eyes, and a tinge of romance and interest is given these birds and beasts of the wild that lends fresh zest to the trip.

CHAPTER III

INTO AMERICAN WATERS

SCENIC BEAUTY INCREASES AS VOYAGE CONTINUES. PRINCE RUPERT AND ITS FUTURE. METLAKATLA AND FATHER DUNCAN. "FIFTY-FOUR, FORTY, OR FIGHT." NAMES REMINISCENT OF EARLY EXPLORERS. KETCHIKAN AND SIDE TRIPS. WRANGELL, ITS HISTORY AND PLACES OF INTEREST.

FROM Alert Bay the steamer swings out into Queen Charlotte Sound, and here the swells of the Pacific may be felt for a few hours. The trip to southeastern Alaska is, in the main, as smooth as a sail on a river. At two points only do the waves of the Pacific roll in without break and this only for a brief time. Then the sheltering islands begin again and the water is as tranquil as the farthest inland river or placid lake. It is this that makes the trip so unique. For a thousand miles, the waterway stretches embosomed in the most magnificent scenery in the world. Yet this trip can be taken by the most timid of water travellers without a qualm.

After the open waters of Queen Charlotte Sound are left behind begins one of the loveliest of the winding waterways of the journey. At times the passage is so narrow it seems as if one can almost touch the grasses growing along the shore, or pick the lovely wild flowers that brighten gray boulders or give glowing notes of color under the sombre spruce.

Islands are everywhere, crowded to their very edge with trees, arranged so symmetrically they appear to have been planted by hand to give a neat, orderly appearance

to these islets. Some of the islands are quite round in shape and look like a ball of rich green in the blue water. Others have sharp points with trees in single rows daintily stepping to their very extremity as if to lend a note of picturesque variety.

At times the shores run steeply up into green, towering mountains making the passage seem a dark, awe-inspiring fiord; again the banks sink lower and beyond are great snowy peaks.

At night, when the course winds around jutting points and into seemingly landlocked bays, the friendly gleam of tiny lighthouses beams out and seems to say, "Come on, you're safe." As the boat twists and turns, near at hand and far ahead flash these messages of guidance. Night-fall in these northern latitudes is often but a matter of color, a coming for a brief while of purple shadows on the mountains and along the shore. But the little lighthouses go on duty and as cheerily blink away through the twilight as though darkness had fallen.

These Alaskan nights, which are not night as we know it, often have most glorious sunsets. At eight, nine, ten o'clock, according to the latitude, for the sun seems loath to depart in the summer, massive purple clouds pile up in the western sky. Nature fires her sunset gun and the whole mass is lighted from behind as if with flames. The fretted edges are tinged with lines of fire. Through narrow openings the glorious crimson pours out, tingeing the waves with red, which shades in the distance to a lovely salmon pink. Mountains take on a rosy hue, those that are cone-shaped seeming to be flaming volcanoes.

Then, just as the sun drops, the clouds part as if a master stage manager had drawn aside the curtains, and, for a moment, it is seen, a great, glowing, red ball. Then it disappears in the crimson waves. The colors begin to

pale. The world turns a faint, ethereal amethystine color and then a rich violet blue settles softly over the mountains. The patches of snow gleam gray-white. The water grows black in the shadow of the hills. But far aloft the sky is still brightly clear with that peculiar purity of tone for which these northern skies are noted, till gradually the light grows brighter and day begins to dawn.

One does not get up to see a sunrise in Alaska. He stays up and then goes to bed.

The next point of call for the Canadian boats is Prince Rupert. This is the terminus for Canada's latest trans-continental railroad and is quite new and modern. The little town nestles against forest clothed hills and rises, tier upon tier, up the side of the mountain. So steep is the ascent that the planked streets are frequently built on trestles on the descending ground beneath, and the fronts of houses in order to be on a level with the street are built on pilings while the back part rests upon the solid mountain rock. But in spite of these obstacles, it is a cheery little place with great hopes for its future. It is the nearest Pacific port to the great ports of the Orient. It has lumber, minerals, and a great grain region to draw upon, and its people believe that some day it will be one of the great cities of the Pacific.

It has one asset rather unique in this part of the world — a natural hot salt water bathing place. Near the beach is a little inland bay, if one may so call it, and two lakes. When the tide goes out, these are left dry, and the earth grows hot under the warm rays of the sun. When the tide returns, the heat from the earth warms the water, and the people of Prince Rupert flock there for their hot salt water baths.

Beyond Prince Rupert is a most interesting place, Old Metlakatla, where William Duncan, Father Duncan as he

was later called, began the missionary work among the northwest Indians that eventually attracted worldwide attention.

When sea captains and explorers began to return to England from the northwest coast of America during the middle of the last century they brought horrible tales of the barbarous cruelties practised by the natives. These tales aroused the compassion of Duncan and fired him with zeal to attempt the civilization of these tribes. He was holding a lucrative position at the time but he decided to give it up and enter upon this work.

Many tried to persuade him from such a seemingly hopeless task, even Sir James Douglas, the Governor, doing all in his power when Duncan reached Victoria to stop him from so recklessly throwing away his life. But Duncan would not be turned aside, and went to Fort Simpson, a post of the Hudson Bay Company, and began his work.

The fort itself was indicative of the temperament of the Indians. It was protected by palisades of heavy timber, had massive gates, and was flanked with four bastions with galleries mounted with cannon. Sentinels kept watch day and night, and when the Indians came to trade, so treacherous were they known to be, that only a few were admitted at a time.

Undaunted by what he saw and heard, Duncan bent himself to the task ahead of him. His first work was to learn the language. This language abounds in metaphor and Duncan knew he must get not only the words but the Indian's way of thinking and of using these words, if he really wanted to speak their native tongue. The value of this thorough work was shown by an incident that happened to a worker who came later into this field and who did not grasp, as had Duncan, the difference between

the spoken word and the thought back of it. This new missionary blandly addressed a group of Indians as "Children of the forest," a phrase he believed poetic and complimentary. Translated into the Indian thought this was, "Little men among many sticks or stumps," an implication the Indians resented, and the missionary had little success among them.

Father Duncan made no such mistakes. He labored till he could reach them in their own picturesque phraseology, then he made a simple address explaining his mission. Also, through the Indian who was teaching him, he had let it be known that he had come to tell them of the white man's God and also many things that would be helpful to them. He thus aroused their curiosity, and when finally he opened a school at the house of a chief, it was eagerly attended by both old and young. The attendance grew, and, eventually, a log schoolhouse was built.

Father Duncan was shrewd enough to realize that along with the moral lessons he was anxious to inculcate must go some practical benefits, if he wanted to make the impression he desired. So he introduced certain industrial enterprises. The first of these was soap making. At his coming the Indians were obliged to pay one mink skin for a very small piece of common yellow soap. They were quick to see the economy of making their own.

His efforts to improve their condition morally and industrially quickly aroused the opposition of the medicine men of the tribe who saw their influence slipping away, and of the Hudson Bay Company who saw their profits disappearing. Both tried to break up his work, and many times he had narrow escapes from attempts on his life. Such things had no effect upon him personally, but certain pernicious influences at the fort, he saw, did retard the work, so he decided to move and establish a model town.

The site of what is now Old Metlakatla was chosen. It was a good fishing and hunting ground, had a fine harbor and rich soil. A set of rules for conduct was drawn up to which each who went must subscribe. About thirty agreed, and the little colony moved to their new home. In about a week thirty more canoes came bringing about three hundred Indians, including two chiefs.

Father Duncan saw it would be wise to place some of the responsibility of government upon the Indians themselves. A village council of twelve was elected, a native constabulary formed, taxes in the form of blankets and clothing imposed for such public works as drainage, roads, and public grounds. Evil forms of amusement, such as gambling, were replaced with healthy athletics and games.

The work prospered. The Hudson Bay Company, because of loss of profitable trade, refused to bring the little colony supplies, and Duncan bought a boat and did his own trading. The Indians themselves subscribed to this, and when they received their profits from the venture and were made to understand how these profits were gained, they instantly named the boat, "Kahah," slave, for, said they, "It does all the work. We reap profit."

A village coöperative store was established and a savings bank. Here again the figurative language of the Indians is seen, for when the dividends were declared and the method explained to them, they said, "The blankets have swollen."

Finally it was decided to build a new village. The old houses were pulled down, and model homes, a church, town hall, shops, and other buildings erected.

The growth of the colony and its prosperity attracted much comment and nearly all the distinguished visitors to this part of the world stopped to see it, and loud were their

praises of the appearance of the town and of the improvement in the Indians. Trouble finally arose however with the Church of England about technical questions, and with the government on matters of land. As the best solution the colony decided to move over the boundary line into American territory. Annette Island was chosen, and here New Metlakatla was established. This was finally made a reservation by Act of Congress.

The settlement was at first as successful as Old Metlakatla, but with increasing years Father Duncan did not keep up with his progressive policy and the colony retrograded. It has lately been taken in charge by the Bureau of Education for the natives and is again on the road to prosperity.

Soon after Fort Simpson and the site of Old Metlakatla are passed, the famous "Fifty-four, Forty, or Fight" line is crossed, though the traveller is not apt to know it, and he is now in Alaskan waters. This line marks the boundary between American and British territory. Back in the last century, in '43 and '44, it came near getting the United States into trouble with Great Britain. The Russian dominions ended at latitude fifty-four, forty; the Spanish or Mexican with California. The region between was generally known as Oregon and claimed by both Great Britain and the United States, though for years the dispute took no active form. But in 1842, settlers began to pour into Oregon and the controversy became acute. In 1844, the Democrats took the matter up and made a campaign issue of it with the slogan, "Fifty-four, Forty, or Fight." A compromise was finally effected.

Nearly all these waters from Seattle northward have historic interest of one kind or another and many are reminiscent, in their names, of the early explorers.

It was believed in the early days of the discovery of the Western Hemisphere that a passage could be found between the Atlantic and Pacific and many were the navigators that sailed in search of it. In the course of their wanderings some found their way into this beautiful Inside Passage and some of the earliest believed this to be the long sought for channel, though they never followed it sufficiently to discover they were in error.

One of these was Juan de Fuca, for whom the strait at the lower end of Vancouver Island has been named, though many navigators believed de Fuca never reached these waters and that his tales are purely mythical. But Michael Lok, a reputable English navigator, reports in his journal that de Fuca told him of passing "divers Ilands in that Sayling and saw people on Land clad in Beast's skins," and that the land was "very fruitfull and rich of gold, silver, pearle and other things," which, whether he saw it or not, very aptly describes this section.

Many other Spaniards sailed these waters and their presence is recalled to-day in such names as Revillagigedo, the island upon which Ketchikan is located and which was named for a viceroy of Mexico; Hecate Strait, between Queen Charlotte Islands and the mainland and named for St. Bruno Hecate. But Captain Cook and George Vancouver are the navigators who left the greatest number of names, and their nomenclature is met at every turn.

The next stopping place is Ketchikan, and this is the first American port of entry. It is a picturesque little town perilously perched on the side of a mountain, and looking as if it might at any moment slide into the harbor. Just enough trees have been cut down to allow the building of the houses, hence the forest encloses the town on all sides and clothes the mountains thickly to their very tops. The houses are perched on jutting rocks. They are

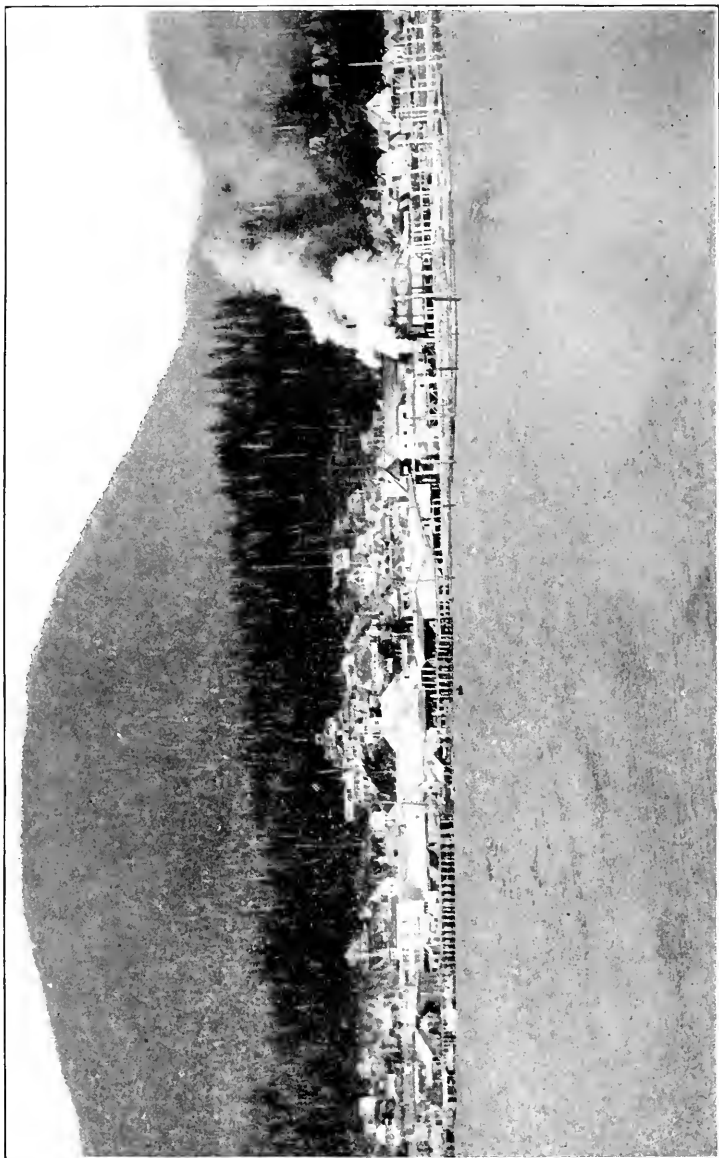
tucked away in all sorts of nooks and corners. The roof of one will be on a level with the doorstep of the next. Streets turn and twist with an utter disregard of regularity. In these respects it seems more like a little foreign town than an American city.

A foaming mountain stream with snowy rapids and cascades rushes down through the town, and a walk up the banks of the stream is one of the events of the time spent ashore. The water has the crystalline clearness of mountain streams and foams over great boulders and mossy logs, and leaps down miniature falls in its eager haste to the sea. The banks are green with luxuriant shrubbery, wild blackberries, raspberries, salmon berries and bushes of many kinds. The ground dogwood stars the earth with its snowy blossoms and wild flowers embroider the wooded path with color. Stairways of logs all covered with green moss like a velvet carpet lead off to homes hidden among the trees. Everywhere is overflowing luxuriance in the vegetation that embanks the shining, sparkling water so swiftly rushing by. In the thick spruce woods, the note of a thrush comes sweetly through the fragrant air and blends with the music of the stream.

This creek is a salmon stream, and, during the run, the fish can be seen swarming up its waters and leaping its waterfalls on their way to the spawning grounds.

Nearly all the Alaskan towns along the coast present the characteristics of Ketchikan — a cluster of houses under overshadowing mountains, planked streets and sidewalks, and much of the town built on pilings over the water.

From Ketchikan a number of interesting side trips can be made. One is through Rudyerd Bay, which lies back of Ketchikan to the east. It is one of the loveliest water-



KETCHIKAN

ways of the coast, winding under frowning cliffs in and out among islands, with snow mountains, four thousand, five thousand, and six thousand feet high, uprearing their glistening peaks in the distance. In the centre of the bay rises a rock, sheer and precipitous, several hundred feet high.

Another trip is across to Prince of Wales Island where is old Kazan with its interesting totem poles, probably the greatest number in any one place in Alaska. This island is one of the seats of the Hydahs, one of the most intelligent and advanced of the Indians of Alaska.

Opposite Ketchikan, on an island, is an Indian graveyard with totems.

The steamer is soon threading its way through what is known as the Alexander Archipelago, a group of eleven hundred islands that have been charted, and innumerable smaller ones, mere dots of rock and trees, that are not charted. The scene is one of enchantment — placid blue waters; wooded shores; steep slopes richly dark with spruce and hemlock, with strips of paler green where avalanches have swept down, and grass and birch and willow have sprung to cover the scar; of great cascades, pouring joyously from the mountain tops; of patches of snow lingering in the shadows; and always with a great amphitheatre of jagged peaks in the far distance making a beautiful background of tender, dreamy blue and pure white for the richer, deeper coloring at hand.

Through this land of beauty, the boat quietly glides. A salmon leaps, shivering the water into a thousand silvery ripples. Gulls soar and dip. Wild ducks speed away on swiftly fluttering wings. Never is there monotony. The channel narrows till its towering green walls seem right at hand. It sweeps up to a seemingly impassable granite cliff, but the water deftly turns a corner and hurries away

into a broad, mountain-surrounded lake. Vistas of enchanting waterways stretch in many directions, arousing with their tempting beauty the longing to explore. The steamer serenely threads its way through this maze, knowing its course; though the passengers vainly try to guess which passage will be chosen, and usually guess the wrong one. Thus, at last, one comes to Wrangell, a town of more than usual interest, though of not much size.

Wrangell is at the mouth of the Stikine River, and during the days of the gold rush was the outfitting point for those going to the gold fields by way of the Stikine River and Lake Teslin. Some went still farther inland to the headwaters of the Pelly and down this river to the Yukon. Both are hard trails. But the hardships were not discovered till the gold seekers had started, and then they did not turn back.

Mines are still being worked up the Stikine River and boats of the Hudson Bay Company ply up its waters. Even before the rush of '98, mining was done far up the river and on the tributaries of the Mackenzie, so that it has been a central point for miners for almost half a century.

It was founded by the Russians in 1834, and named for Baron Wrangell, the then governor of Alaska. It was early an Indian settlement, the principal town of the Stikine Indians being Old Wrangell, some distance south of the present town. It is claimed that the first carved totem poles in Alaska were set up here, and the totem poles of Wrangell are among the most famous in the Territory, though they are at present in rather a tottering and weather-beaten condition.

The Indian village lies to the south of the town and at some distance from the pier. If time permits, a visit is



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WRANGELL

interesting. Here is to be found the Shakes House which contains many curios belonging to the tribe of which Chief Shakes, now dead, was merely the custodian. It is an interesting place and many of the curios are valuable from an ethnological standpoint.

At the other end of the town are the remains of the old fort built in 1838, used by our government when we took over Alaska, and finally abandoned in 1900. Near it are the jail, the home of the United States marshal, the post office and other government offices.

This part of the town is very attractive, being on rising ground and commanding a view of the beautiful harbor with its pretty islands and surrounding mountains. Neat, attractive homes are here with pretty flower gardens and tempting vegetable patches.

Many enjoyable side trips can be taken from Wrangell, one being to the Le Conte Glacier, and another to the west coast of Prince of Wales Island, on which are numerous native villages both recent and old. There are also many pretty and interesting places merely from the standpoint of beautiful scenery that can be reached within easy distance of Wrangell.

One of the most delightful of these excursions into the heart of fine scenery is up the Stikine River. Such a trip, aside from its scenic interest, has a tinge of the romantic in that one is following the trail of the gold seekers and also one of the old Hudson Bay routes. Its lower course lies through grassy meadows dotted with clumps of spruce and fir. Then it begins to enter the mountains and finally sweeps into a magnificent canyon, the walls rising to a height here and there of several thousand feet. Glaciers hang over the cliffs, descend the sides, and push out even to the river itself. Waterfalls send their joyous voice and rainbow colors to greet eye

and ear. Birds sing; golden bees flit over miles and miles of wild roses, honeysuckle, clover, and countless other rich-hued and fragrant blossoms. One can scarcely realize he is in what he had supposed to be an Arctic region. Only the presence of the glaciers and the snow-capped mountains bring the thought of Arctic snows, and these but temper the air refreshingly, making its gentle touch as a draught of cool spring water to the thirsty palate.

CHAPTER IV

WRANGELL TO SKAGWAY

BEAUTIFUL WRANGELL NARROWS. THE FIRST GLACIER. PETERSBURG. TAKU INLET, ITS FAIRY FLEET OF ICEBERGS AND ITS GLACIERS. JUNEAU. SIDE TRIPS FROM JUNEAU. LYNN CANAL. HAINES, FORT WILLIAM H. SEWARD AND SKAGWAY.

THE scenery grows more and more beautiful as the journey proceeds northward. There is no anti-climax. In fact, a Canadian admitted that the finest scenery did not begin until the American waters were reached. But scenery has no nationality. No one can cavil at the beauty that lies behind. That it grows more impressive is only reason for rejoicing.

Wrangell Narrows are famous for their loveliness. They wind in the same alluring fashion as the channels already threaded, between high mountain walls clothed with spruce and cedar, around great gray bluffs, past innumerable islands. The way is well marked with light-houses and buoys, and so devious is the channel that in some stretches the guiding posts of various kinds seem every few yards and the width between those on each side scarcely sufficient for the passage of the boat.

In some places along the shore are strips of vivid green grass before the dense growth of trees begins. The waterfalls grow in size and volume, roaring down amidst the rocks, disappearing among the trees, flashing out again in silver radiance at the water's edge. The mountains

become higher, some rising almost ten thousand feet, the lower parts, the tender blue of the sky; the upper, great snow fields. Range upon range, they soar away into the distance, some with sharp peaks like the Matterhorn; some with peaks like a great cabin, its roof covered with snow, others resembling tents. Over the snowy side of one mountain lay what seemed like a trail of enormous footprints as if some giant had walked across the mountain top upon some errand of his world.

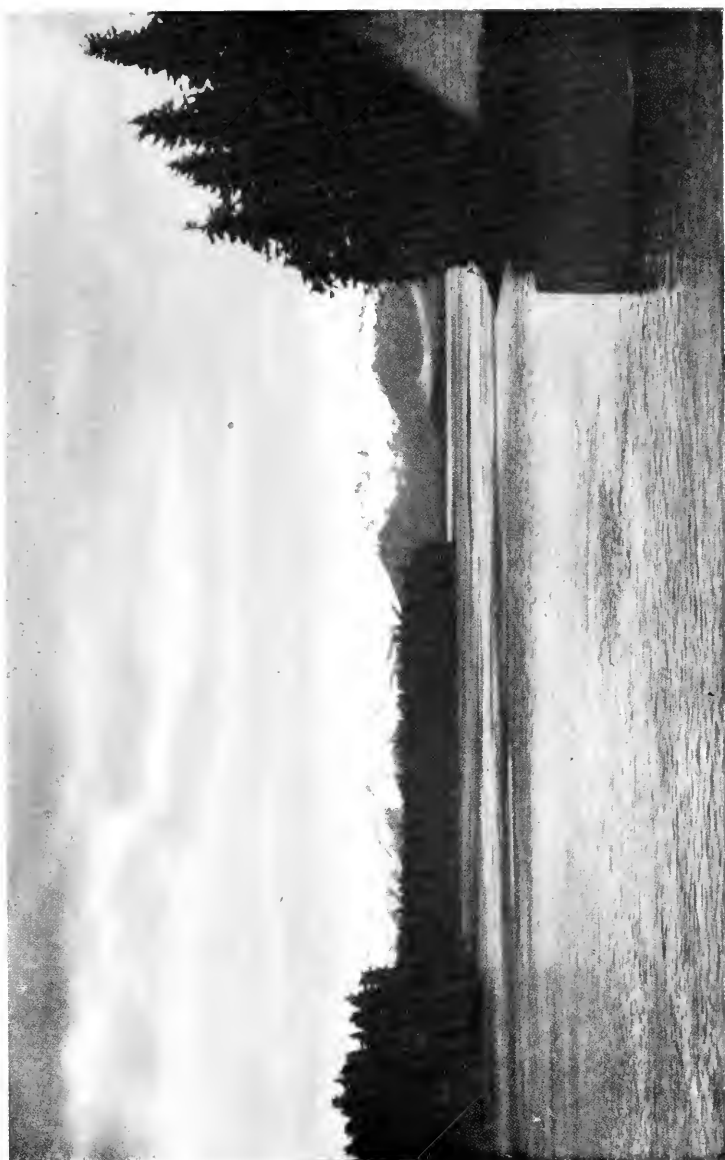
Great flocks of wild ducks fly swiftly over the waters, the rhythmical flash of white on their wings adding to the charm of the scene.

The first glacier comes into view, a great majestic river of ice sweeping down from the sky. Little icebergs appear, tiny, fairy fleets, snow white excepting for a wonderful blue at their base.

One speculates as his gaze rests upon the beauty all about, if the gold seekers who travelled this route in the days of the rush had so much "gold dust in their eyes," as John Muir expresses it, that they were blind to the wonders of nature's handiwork. So absorbed were many who went through here in the early days with the thought of gold that there seemed to be no other interest in life worth considering. Muir tells that the natives said of him when they saw him intently studying a tree, "What can the fellow be up to? I saw him the other day on his knees looking at a stump as if he expected to find gold in it." They could not realize there are many other kinds of gold in the world than the shining metal.

Petersburg is the next stop on this part of the coast. It has a different setting from most of the towns hereabouts, having found a level place upon which to dispose of itself. It is quite a centre for salmon canneries and the shipping of fresh fish, those engaged in this business

Wrangell Narrows



getting all the ice they need from the bergs that float in the waters hereabouts.

It is also in the heart of a fisherman's and sportsman's paradise. Within a few hours' run by motor boat, the sportsman can find bear, deer, and wolves, and, crossing the range, can get into the habitat of the mountain sheep, moose and caribou. Ducks, geese, grouse, and ptarmigan are plentiful and the streams swarm with varieties of trout. The Le Conte Glacier, about fifteen miles from Petersburg, unlike many of the glaciers of Switzerland, can be easily approached. It is one of the most southerly live glaciers in the world and huge blocks of ice fall from it at intervals, and sail away as majestic icebergs, a sight one does not expect to see within such easy reach of the centres of civilization. Though the atmosphere is pleasantly cool from its blue ice caves, wild flowers and berries grow in profusion all about.

From Petersburg the steamer soon glides across Frederick Sound into narrower waters and then sweeps out into what seems a great lake blue as the skies above and entirely encircled with range upon range of snowy mountains. It is doubtful if the world has elsewhere a fairer scene of its kind. One feels like doubting the evidence of his eyes, for it appears incredible that so much sheer beauty can exist in one place.

Vast, tremendous, powerful, the mountains soar tier upon tier in a great amphitheatre as far as the gaze can reach. From this veritable world of snowy peaks, the eye finally turns to the gentler beauty at hand. Right ahead lies a big, cone-shaped mountain, robed with spruce to its top. It seems an island in the water till the eye discovers a low, narrow causeway connecting it with the mainland. The lower mountains in the foreground that sweep up from the shore on all sides are green with spruce

and fir. Snowy waterfalls pour down their sides and lend the beauty of grace and movement. On, the eye wanders to mistily blue bases of farther mountains, and still onward, till once again that great, magnificent circlet of glittering peaks holds the gaze enthralled. Alaska is truly snow girt, but there is nothing bleak or forbidding in its aspect. There is only the beauty of majesty.

Then the steamer sweeps around the green, cone-shaped mountain and a magic fleet of icebergs, graceful shells, birds, turreted castles, sea horses — fantasies of form lovelier than any architect could devise — all turquoise and sapphire and amethystine in tint, sails slowly into view. Beyond them lies a great wall of blue-white ice, and still beyond, a vast sheet of ice reaches back to the snowy peaks and the sky.

The Taku Glacier stretches for a mile and a half across the upper end of this Taku Inlet and towers three hundred feet high. From this ice wall the bergs break, crashing with a roar like thunder and sending waves sometimes twenty feet high that set all the other bergs to dancing and dipping as if joyously greeting their newborn sister. The bergs are a marvellous blue, sometimes opaque like great blocks of turquoise, again, a sapphire with crystal edges. In some are arches and caverns that repeat in the depths within the exquisitely pure azure tones.

At the head of Taku Inlet one has the rare fortune to see both a living and a dead glacier. A short distance from the glacier that is moving forward at the rate of ten feet a day and from which the bergs break is a glacier that has shown no movement for two hundred years. It is gradually receding and in front of it is quite a beach with clumps of trees growing. The glacier is covered with detritus and looks at first glance like an earthy hill-side. At times air holes blow out in this, leaving great,

gaping chasms of fresh ice, and destroying the trees in front and raising waves in the Inlet destructive to the fishing boats plying there.

To the right of the live glacier, the Taku River flows into the Inlet, a stream that rises far back in the mountains and flows through beautiful scenery to its outlet here.

Reluctantly the steamer turns and glides back past the bergs slowly sailing to the sea, past the sentinel, cone-shaped mountain, out through the beautiful blue lake with its encircling world of white, and turns up the Gastineau Channel to Juneau.

Juneau is situated under the shadow of towering green mountains. Indeed so small is the space at the base of these two great hills that the wonder is a town was ever started there. But like every other Alaskan town, the discovery of gold brought people, and with people came homes and stores that spread themselves out picturesquely at the foot of the two peaks, Mt. Roberts and Mt. Juneau, in whose canyons the gold had been found.

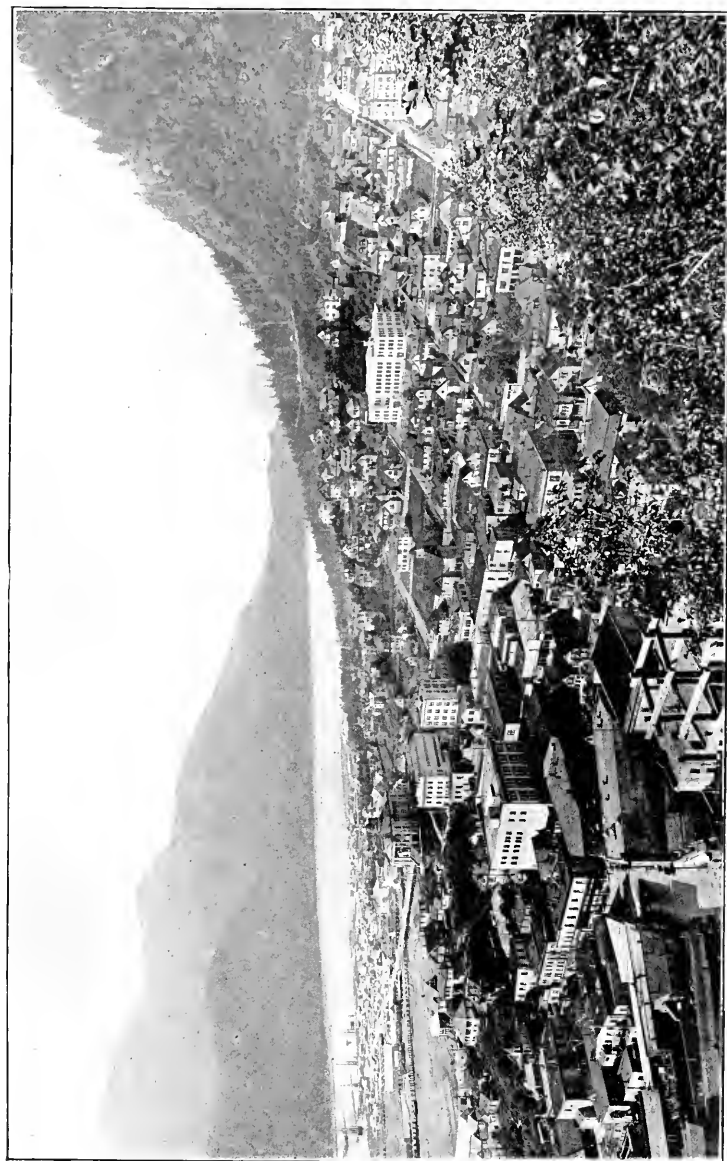
So far, this is the first place visited where Alaska's gold is brought impressively to the traveller's attention. It is here that the famous Treadwell mines are located, and the almost equally famous Alaska-Gastineau and Alaska-Juneau mines. Seventy million dollars is a low estimate for the output of gold from all the mines about Juneau since its discovery in this region.

There are three groups of mining properties in the immediate vicinity of Juneau; one, the Alaska-Juneau, within the town limits; another, the Alaska-Gastineau, about three miles below at Thane; and the third, the Treadwell group, across the channel at Treadwell, connected so closely with the little town of Douglas that the two are practically one town. At varying distances from

Juneau are other mines, but these are the famous three that have given this section its reputation as a great gold-bearing belt. Tourists have heard so much of the Treadwell mines and so little of the others, that as the steamer glides up the channel to its dock and the stamp mills of Alaska-Juneau and Alaska-Gastineau mines are seen clinging desperately to the mountain side, there is often much questioning as to what these are or if they are the famous Treadwell mines.

But though the mines at Juneau are apt to excite first interest because of their fame and because they are first seen as the steamer makes its way up the channel, they are by no means all that Juneau has to offer the tourist. The town itself is picturesque, for the streets wander whither they will and twist and turn in most unexpected fashion. Indeed, in the early days, when the place was being laid out, one of the residents remarked that it would never be necessary to have streets as no one would ever use a horse in this part of the world, so, little attention was given to the width of streets or to the shape or size of lots. But the man was a poor prophet, for to-day not only are there many horses but there is also a goodly number of automobiles.

In these early days the miners themselves governed the town through what was known as the Miners' Meeting. This organization adopted rules and regulations governing the location of mining claims and the location of a town site. It was at one of these meetings that the name of the town was chosen, Harrisburg being first taken for Richard Harris, one of the early discoverers of gold in this section, and then Rockwell, and finally, its present name in honor of Joseph Juneau, who divided with Harris the honor of the original discovery. This Miners' Meeting was also a criminal court, and when two hangings



JUNEAU

became necessary, each citizen shared the responsibility by having his hand on the hangman's rope.

But these times are passed away and to-day Juneau is a city with many stores, some of concrete, with many hotels, banks, business places of all kinds, and pretty homes. It has a municipal wharf and coal yard. It has a fine water supply of ice-cold spring water brought down from the mountains, a public library, a fine High School, modern in every way even to a big electric range for its domestic science department; many churches, and all that goes to make up comfortable and pleasant living. For it must be remembered that Juneau is not only the centre of great mining and fishing industries which bring much business to its doors, but it is the capital of the Territory of Alaska and here are centred not only the headquarters of the territorial government but many of the federal offices as well. In 1899, Congress passed an Act by which the various branches of the government were to be established here when suitable buildings could be secured, and the offices of the Governor and Surveyor-General were moved from Sitka in 1907.

All these things insure for Juneau a stable future. The large mining projects mean the investment here of millions of dollars of capital and the employment of many thousands of men. This means the distribution of a large amount of money in the way of wages, a large permanent population to be supplied, and, consequently, good business. There are also other big industrial projects either completed or under way. More than six million dollars have been expended within a few years recently within four miles of Juneau for development and building purposes. So that this Alaskan town feels that it has a bright future.

In addition to the charms of the town itself, there are

many interesting side trips about Juneau. Indeed, the tourist could most profitably make Juneau headquarters for a summer's vacation and find the days filled with outdoor pleasures that would never pall.

One of the loveliest of these trips is a ride or walk up the beautiful Gold Creek Canyon back of the town to Silver Bow Basin at its head. One can go by automobile, and it is a delightful ride, or one can pack a lunch, add to it for dessert the wild berries that grow plentifully by the roadside, and enjoy one of the most exhilarating days outdoors he is ever likely to write on his calendar. It is about four miles to the head of the canyon, a good road all the way, and if a day is taken for the trip, even the one least accustomed to walking can accomplish the expedition without injurious fatigue.

Here and there the road is built of planking out over the canyon. Below rushes Gold Creek, a foaming, mountain torrent. Great waterfalls leap and tumble down the sides of the enclosing mountains which tower at some points several thousand feet. The road at times clings close to the granite side of the mountain, with the canyon walls dropping sheer below hundreds of feet. At other times it winds through lanes of greenery, the shrubs and willows and wild flowers reaching far above one's head. Wild flowers are everywhere, a constant succession of rich bloom, rose and gold and purple and blue. Wild berries are plentiful, big, luscious, salmon berries, delicious raspberries; tempting blackberries, according to the season. Over the cliff-like walls of the canyon arches a wonderously blue sky, and the air that softly brushes the cheek has the refreshing coolness of mountain snows and the spicy fragrance of spruce and fir.

A climb to the top of Mt. Roberts or Mt. Juneau gives entrancing views. Over the top of Mt. Jumbo on Doug-

las Island can be seen the mountains on the island beyond and the waters of Chatham Strait and Stephens Passage. To the north rise the snowy Chilkat Mountains, and eastward, the mountains roll in great, upheaved masses to the Canadian border.

A trip that is not likely to be equalled elsewhere in the world is a motor ride to Mendenhall Glacier. Through a world all glorious with the rosy hue of fireweed, the blue of lupine, the fluffy white of Alaska cotton and the frosty sheen of silver spruce, one rides straight into the heart of a great mountain of blue-white ice. In fretted towers and castles and minarets, in caverns and crevasses, its front wall rises sheer a hundred feet and more, in tones of delicately clear, tender blue, and rolls back in frozen, choppy waves to where great jagged, gray peaks against the sky line form the doorway through which it pours from invisible mountains beyond. From its front flows a swift, glacial river, and here on the great boulders at the edge of the stream and backed by the glacier stands the Nugget Creek Power House, a place of shining brightness and order, of noiseless, swiftly revolving wheels, of intricate mechanism as wonderful in its way of making and sending light and power to the mines many miles away as is the great, silent glacier in its making of continents.

This glacier, though similar to Alpine ice streams, is larger than the greatest of the Swiss glaciers. It is more than twenty-five miles in length as compared with the sixteen miles of the Aletsch Glacier, the greatest ice river of the Swiss Alps. The mountains at the head of the Mendenhall Glacier have an elevation of about seven thousand feet and offer Alpine climbing that will require the ice axe and the iron shod boots of the mountaineer.

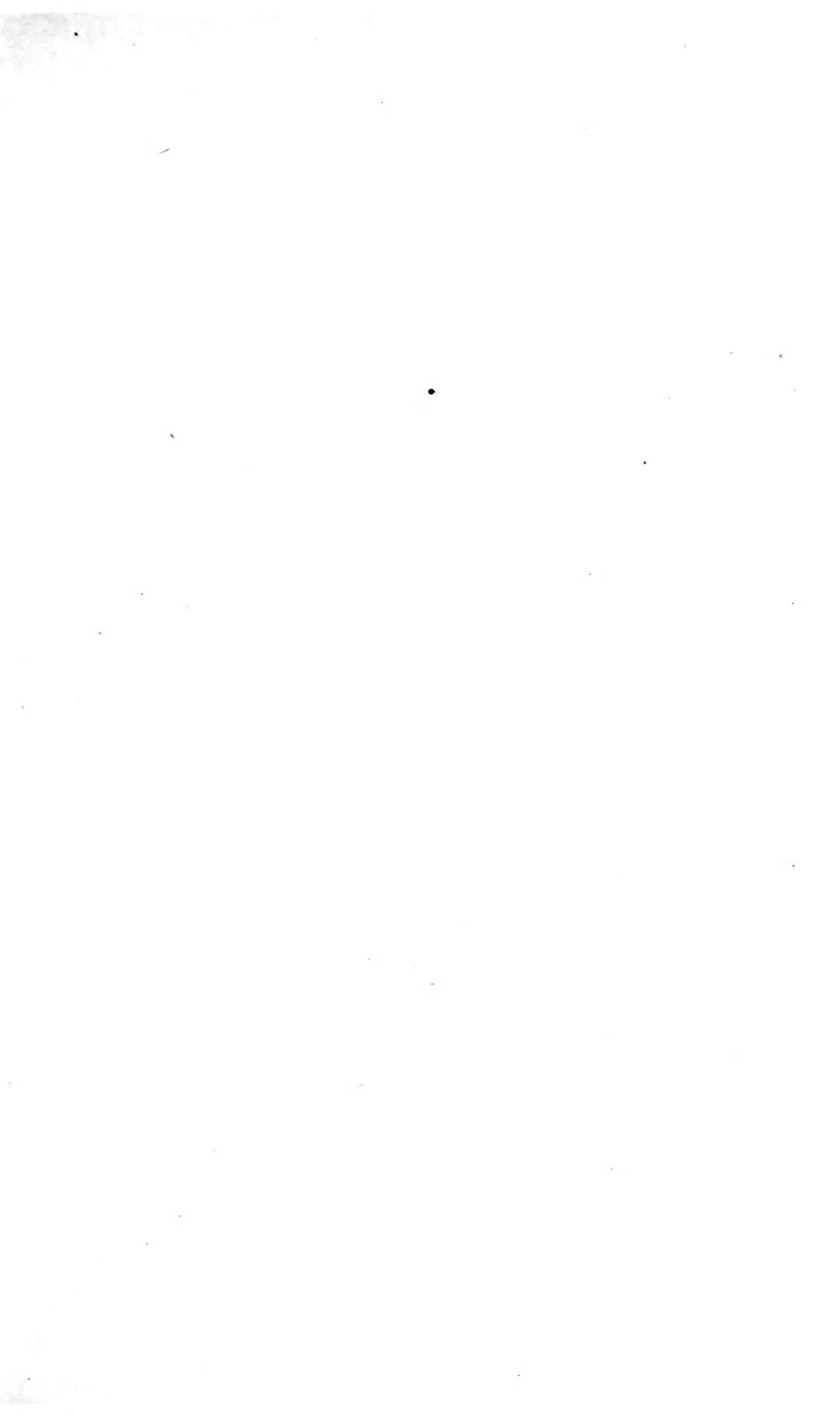
On the way to the glacier, you may be privileged to

stop at a little ranch hidden in the birch and spruce woods where a smiling Indian woman will show you her flocks of white Leghorn chickens, thousands of them, that cover the ground like snow, and also her thrifty garden where big luscious strawberries gleam tantalizingly under their green leaves, and peas, potatoes, cabbage, carrots, and many other thriving vegetables may convert you as to the possibilities of farming in Alaska. A head of cauliflower ten and a half inches high and weighing six pounds was raised here, and it was only an average one in a poor season. You can see the photograph of it taken with the measuring rule alongside, if the tale seems incredible. Another product of this garden was a turnip weighing twenty-one pounds. In the little patch of strawberries thirty by forty feet were picked twenty-two gallons of the fruit besides what was used by the family.

Another beautiful ride is out the road to Auk Lake. It leads along the upper end of Gastineau Channel, with its blue waters on one side, spruce and fir woods on the other, and snow mountains in the distance. It sweeps out into grassy meadows with lupines and fireweed and golden daisies adding to the loveliness of the scene, over rapid glacial streams, through woods with vegetation tropical in its luxuriance.

Once a week there is usually a trip by boat up the Taku River and into the Lake Atlin country. This takes the traveller once again into that glorious Taku inlet with its fairy fleet of icebergs, its encircling snow mountains, its glaciers, and then on up the Taku River through towering canyon walls and out upon the shores of one of the most beautiful mountain lakes in the world.

There are launch trips through the beautiful intricate waterways to Sitka, to Glacier Bay and the Muir Glacier to which the big steamers do not go. In fact one can put



Icebergs in Taku Inlet



in many days at Juneau, with every day filled with beauty from nature's hand.

But the tourist who is journeying northward by steamer can see but little more than the town, for the steamer whistle blows, "All aboard," is shouted, and the trip is again resumed. As the Gastineau Channel at its upper end is too shallow to permit the passage of steamers, though it is being dredged and in time vessels will pass out this way, the steamer now retraces its route down the Gastineau Channel and then turns northward into Lynn Canal.

Lynn Canal, named by Vancouver for his birthplace in England, is another scene of enchantment. The sheer beauty of it makes one wonder if it really is of this earth. For sixty miles it extends in almost a straight line north, a placid sheet of blue water walled in on both sides with snow-capped mountains that rise almost sheer from the water's edge to a height in many places of six thousand feet. Peak upon peak they range, their bases mistily blue, their tops shining with their snowy burden, and with snow in patches in the crevasses on their sides. Waterfalls rush down their steep declivities, and glacier after glacier sweeps from the sky line down through ravine and gorge, often as many as a dozen of these great ice rivers being seen at one time. The Davidson Glacier, one of the most noted, spreads its great ice wall, almost three miles wide, near the water's edge.

It is a scene of unparalleled grandeur — the shining water, the shining snow caps stretching mile upon mile into the far distance, the misty blue of their lower slopes, the deep sombre green of spruce and fir at the water's edge, the foaming waterfalls, the majestic silent rivers of ice strong with the strength that makes and moulds continents. For hours upon hours, the steamer glides through

this wonderland, the fiord growing narrower, picturesque lighthouses and islands appearing as the upper end draws near. On the west shore, near the upper end, are Haines and Fort William Henry Seward.

Haines and Fort Seward are practically one, a little stretch of spruce woods between the two being the only separation. Haines is an attractive looking town and has quite a number of two-story buildings all neatly painted. The presence of paint is as noticeable here as is the absence of it elsewhere. A long wharf leads from the dock back to the main street of the town which climbs upward to the homes, hotels and stores of the little village. On the creeks back of Haines are mines and in the valleys thereabouts, farms. It is one of the best places in Alaska for certain agricultural products, notably strawberries, and its nearness to Juneau and the possibility even of sending its products to Seattle promise it quite an agricultural future. At one time there was talk of a railroad from Haines to the copper and other mineralized regions at the headwaters of the White River. With the development of the Territory undoubtedly this road will come, open up a rich section, and probably be extended to Fairbanks, bringing to this interior town even quicker communication with the States than by the government railroad, and enabling the people of Fairbanks to enjoy such fruits and other products of the outside as are too perishable to be shipped by the longer route.

Fort Seward has the neat, orderly air of all military posts.

It is but a few hours' run to Skagway and here one feels that he comes more intimately in touch than he has elsewhere with the trail of that gold-crazed mob that poured in '97 and '98 from Seattle northward in a wild race for Dawson.

CHAPTER V

SKAGWAY AND THE WHITE PASS

SKAGWAY PRESENT AND PAST. SOAPY SMITH AND HIS GANG. THE AWE-INSPIRING SCENERY OF THE CANYON. THE TRAIL OF THE STAMPEDERS AND ITS TRAGIC STORY. THE BUILDING OF THE RAILROAD THAT CONQUERED THE PASS. BEAUTIFUL LAKE BENNETT.

SKAGWAY is, to-day, a quiet little town of pretty homes and grass-grown streets. Its tranquil likeness, except perhaps for the curio stores with their bearskins, nuggets and carved ivories, can be found in many an Eastern or Middle-West State. To one who gazes upon it for the first time, without knowing its history, would come no inkling of the turbulent tide of humanity that poured through its streets in '97 and '98 nor of the tragedies and comedies enacted there.

Though situated against a background of mountains, as are most of the Alaskan ports, Skagway has quite a flat little valley in which to spread itself. One finds here streets of good Mother Earth instead of the planking almost universal elsewhere. The streets run at right angles to each other and are clean and well kept. The houses sit back in pretty yards, and everywhere are flowers, for Skagway has been called the flower city of Alaska. It is no unusual thing to find dahlias ten inches in diameter and sweet peas nine feet high. Other flowers grow with equal luxuriance, a vegetation that is a source of amazement to those who still think of Alaska as a region of ice and barrenness.

Skagway has stores, hotels, churches, electric lights, telephones, a good high school with manual training, domestic science and a well-equipped gymnasium, and all the other comforts of a modern though small town. It has several fraternal organizations and is the home of the first camp of the Arctic Brotherhood. This society was founded here by the American and British residents for protection against law-breakers, its motto being, "No boundary line here." It developed into a fraternal and social order with branches scattered well over Alaska.

Round about Skagway are many pleasant places for side trips. Mt. Dewey, that rears its white head nearby, offers a good stiff climb to the hardy mountaineer. From its top a beautiful view is obtained of Skagway lying like a checkerboard below, of the silvery line of Lynn Canal, of the green canyon stretching off in the opposite direction, of the railroad winding through it, and of the mountains opposite.

Denver Glacier makes another interesting trip. It can be reached by a trail, or by the train part way and then by a walk. The A B Mountain, so called because of the deep clefts in its side which, when filled with snow, look like the letters A B, tempts some to essay its rugged heights. There are walks and waterfalls and little mountain lakes that all make pleasant outings, and across the inlet is the site of Dyea which, in 1891, could claim but one house, but which, like Skagway, grew almost overnight with the coming of the gold seekers. Dyea was the starting point of the Chilkoot Pass, that straight-up-to-the-sky climb of thirty-five hundred feet, that led over the mountains into the interior. Skagway's passage to the gold fields was up through the White Pass. Rumors of this lower pass had been floating about for some time but so eager was each one to get to the gold



SKAGWAY AND LYNN CANAL

fields that no one would definitely explore it. Some years before, Mr. William Ogilvie, a surveyor in charge of one of the expeditions that had to do with the boundary question, had heard of a lower pass than the Chilkoot and had sent a member of his party to try to discover it. The Indians who, without doubt, knew of this cut through the mountains were extremely reluctant to lend any assistance but finally one was induced to go. The pass was found and named by Mr. Ogilvie "White Pass" in honor of Thomas White, Canadian Minister of the Interior. But at the time of Ogilvie's discovery there were few but Indians in the country and so news of it remained practically unknown until the hardships of the Chilkoot trail in the days of the gold rush revived the gossip about it.

The Chilkoot route crosses a flat bit of land, thence up the Dyea River, across the moraine of a glacier and then to the summit by a climb so steep it was often necessary to pull one's self up by branches of trees or anything that could be laid hold of. The White Pass was supposed to be easier, but when both passes had become fairly well known opinion was divided as to which was the better.

There are several quaint Indian legends as to the name of the town Skagway. Its site at the foot of the cleft through the mountains is subject at times to the descent of a strong north wind. This, it is said, is the one unpleasant feature of life in Skagway. The imagination of the Indians who of course suffered from it before the white men came, wove about it, as is their custom, a fanciful interpretation, and so they tell of a beautiful Indian maiden who appeared in the Indian settlement at this point and who was adopted by the tribe and given the name of Skugua. A brave Indian youth — Indian reporters use the same license in their descriptions as do their white brethren, for the maidens are always beauti-

ful and the youths always brave — fell in love with her. But the course of true love runs no more smoothly in an Indian village than elsewhere and the two quarrelled. Skugua fled up the mountain pursued by her lover, and eventually, by the whole village. But she was fleet of foot, and must have been strong of wind, for she outdistanced them, and, at the summit, she disappeared in the mountains and was never seen in the flesh again.

Her lover mourned so sincerely that she finally appeared to him in a dream and told him that if he would honor her memory and if the Indians would let no stranger come, she would watch over him and them.

It is well known that the Indians guarded the secret of the Pass for many years, and that when the bitter north wind swept down through it, they would exclaim, "Oh, Skugua, have mercy upon us," and that when the avalanche took place on the Chilkoot trail that buried many, they said, "Skugua is enraged."

But Skagway has far more than legend to draw upon for its romance. Its placid face to-day gives no hint of the passions of its youth, of the ambition, the hope, the despair, the greed, the cruelty, the fierce hate, that once filled its streets. As many as thirty thousand people came here during the gold rush, eagerly asking questions as to conditions to be met on the Pass, feverishly making ready their supplies for the trip, or serving, in some capacity, those going, or preying upon them. The distraught confusion and hurry of those days is illustrated by the unloading of one of the boats from Seattle as told by a man on board. "The passengers and their goods were put on a scow to be sent ashore. Before the scow got to land, it stuck on a mud flat. The people threw their things over in the wet mud, clambered off, and started to pack their goods to the beach. I saw by the high water

mark on the rocks that when the tide turned we would be floated in, and I tried to restrain some of the men from the fatiguing and useless work they were doing. But nothing would stop them. Before they got their goods ashore, the tide began to flow back and many had their supplies ruined. But, even then, they continued to wade through the mud and water with their loads on their back instead of putting the things on the scow and waiting."

Another instance of the mob mesmerism that ruled is shown by the fact that when news came to Dyea of an easier route over the mountains, fifteen thousand people left the town and started pell mell for Skagway without waiting to see if the report were true.

A character of these days that looms unpleasantly in Skagway's history is Soapy Smith. One cannot walk the streets of Skagway to-day without hearing of his exploits or seeing his picture on postcards for sale. But he was not a resident of whom Skagway is proud, and the wonder to-day is that he so long dominated the town or that his exploits should even yet hold the place they do in the public mind.

He is described by residents of Skagway who still remember him as an affable gentleman, "very much like a minister," which leads one to ponder just which way the barb of this remark is pointed. That he was suave and pleasant in manner, however, all agree, and photographs of him show a kindliness about the eyes and a graciousness of expression that one does not associate with a criminal of his type. It may have been with him a gratification of vanity to so easily get the better of his fellow men rather than any real pleasure in the crimes themselves that was the incentive of his conduct.

He had received the name "Soapy" because of his facility in less prosperous days of seemingly tucking a

five dollar bill in a cake of soap which, of course, was minus the five dollars when the exultant purchaser unwrapped it.

In Skagway, however, he performed no such commonplace tricks. He controlled a gang of men who robbed, murdered even, at his bidding. Soapy or a member of his gang would get acquainted with those going in who looked as if they had funds, or with miners bound for the States who were injudicious enough to boast of their poke. They would be invited to the Information Bureau he conducted, to saloons he controlled, or to any place where they could be robbed. It was no unusual thing for seven or eight men at a time to be piled unconscious in a heap in a shed or secluded yard back of a saloon or gambling place run by the gang.

Though it was known that he was the head and ruling power of this lawlessness, the fact was winked at by the citizens of the town. He was marshal of the day on the Fourth of July, four days before he was shot. And the story is told that a clergyman of the place wishing to get subscriptions for some church work came to him for help. Soapy readily promised his assistance, gave a large sum himself, and urged others to do so. From time to time, he asked the young clergyman how much he had secured and what he was doing with it. When the sum had reached a satisfactory size, he sent one of his men to steal it.

The depredations of the gang were giving Skagway such a bad name that the town was losing business. People were going to or returning from the interior by other routes, fearing they would be robbed of all they possessed if they ventured here. Some of the citizens decided an end must be put to this lawlessness and organized a Vigilance Committee and endeavored to oust the

band. But Soapy's influence was too strong for them and the effort was abandoned. The robbery of a miner, however, and his persistent efforts for redress finally brought the matter to a head. The Vigilance Committee gathered itself together again and decided something must be done. Word was passed privately about that a meeting would be held to discuss the situation. As there was no hall in the town large enough, the people gathered in the early evening on one of the long wharves that jutted far out into the water. Frank Reed was placed at the entrance to prevent any of Soapy's gang from joining the crowd and hearing the plans.

Soapy, of course, was soon informed of the affair. Those who knew him said he must have been slightly intoxicated or he would not have undertaken what he did. But, getting his gun, he started for the wharf, boasting, "I'll soon end this." Reed challenged him and told him he could not go out upon the wharf. "You can't stop me," was Soapy's reply, and raised his gun. Both men fired. Smith was killed instantly, and Reed, mortally wounded, lingered for about two weeks and then passed away.

Under the trees of a little cemetery up the canyon, the bodies of both men lie. Over Soapy Smith's grave is a simple headstone with the words:

JEFFERSON R. SMITH,
Died July 8, 1898
Aged 38 years

Over Reed's body is a beautiful granite shaft on which is lettered:

FRANK H. REED,
Died July 20, 1898
He gave his life for the honor of Skagway.

With the death of Smith, the gang scattered. "They jumped like jack rabbits for the hills," said a resident of Skagway, in speaking of that night. None of his men thought of him. His body lay on the wharf till two o'clock in the morning when some women took it away. But his men were flying from Skagway by any trail and by no trail. A messenger was despatched to the summit to let none pass. Citizens formed themselves into possés and searched. About fifteen were captured. There was talk of lynching. One, known as Slim Jim, who had been confined over a meat shop and had escaped, came near meeting his fate upon his recapture. Cowboys in the crowd who had secured some rope constantly twirled their lariats, and if the noose had fallen over his head, such was the temper of the crowd, nothing could have saved him. But the better element who wanted no more discredit to attach to Skagway, would leap as the rope circled, catch it, and prevent its fall, till finally hot tempers cooled and the crowd dispersed.

The prisoners were taken to Juneau, tried, and given various sentences, and Skagway entered upon a life of law and respectability.

Many of the relics of these early days, including Soapy's gambling outfit, are now owned by Mrs. Harriet Pullen who has, in fact, quite a museum of interesting curios, and is as well a graphic portrayer of these exciting times. She came with the rush of these early days, landing on the beach with four small children and seven dollars. To-day, she has the most unique, most delightful and most modern hotel to be found in Alaska, a place that has entertained more distinguished men and women than any other hostelry in the Territory. Indeed, one of the most interesting parts of the many interesting things she has gathered are the photographs of her distinguished

guests with their autographs. Among them are Earl Grey, "Uncle" Joe Cannon, Governor Riggs, the members of the Alaska Engineering Commission, Dr. Leonard Sugdon, the noted Alaskan lecturer, the members of Alaska's first legislative assembly, James Sheakley, one of the early governors of Alaska, and dozens of others. For the entertainment of her distinguished guests at the banquets given in their honor by the city of Skagway, she has a specially designed service of Haviland china that can serve one hundred and fifty people and special solid silver tableware.

One can scarcely expect such things in Alaska, yet this is but in keeping with the house she has planned. A number of charming bungalows surround the main building where families or parties of friends can live as privately as in their own home while sojourning with her. Almost every room in her establishment has its bath. One of the unique features of her table is that the fresh milk which comes from her own ranch is served in small, dainty, blue-enamelled pans to each guest and he can skim his own cream for his coffee and cereal.

In her museum are valuable Indian relics, for she speaks five Indian languages and she has been taken in as a member by several tribes; curious hand-hammered copper and brass vessels from the Russian occupancy at Sitka; silver candlesticks from Baranof's castle; carved ivories; wonderful strings of beads, some hand cut and more than a hundred years old. Hours can be spent delighting in these odd and rare and beautiful things associated with the life and early history of Alaska.

All this is the outgrowth of this remarkable woman's initiative, originality and resourcefulness, and to hear her tell of the years that have passed since she landed on the beach, widowed, and with her little brood and her

slim purse, is like turning the pages of a romance. She first drove a four-horse team up the Pass to White Pass City and freighted in goods to the stampeders. She worked all day in this strenuous fashion, and baked apple pies that soon became famous, almost all night. In this way she got the start that has fruited so splendidly to-day in this progressive and beautiful establishment that is the pride of Skagway. No one considers a visit to Skagway complete without meeting Mrs. Pullen, seeing her establishment and hearing her graphic stories of early days. The monument she has erected and all it signifies is as much a part of Alaska as the scenery.

Skagway is another point one could delightfully make headquarters for a summer holiday, as there are many points of interest in the neighborhood to enjoy.

At Skagway begins the White Pass and Yukon railroad, one of the most remarkable feats of railroad construction in the country. It has conquered the seemingly unconquerable, for the canyon that lies ahead in its frowning, almost perpendicular walls and its roaring mountain torrent seems secure in its primeval wildness and ruggedness against all efforts to subdue it.

When a railroad was first projected up the pass, the idea was laughed at. "You need a balloon, not a railroad. This is a job for an aeronaut, not for an engineer," was the answer of many to the group of men determined to put the project through. But they persevered, as Alaskans usually do, and to-day the road is an actuality.

The departure of the train is a friendly affair. It runs out Broadway, the main street of the town, and people on the sidewalk wave farewells and shout messages to those on the cars, a survival perhaps of the old-time leave-taking when men fared forth with packs on their backs and friends wished them good luck.

Past the high school, over a meandering little stream with neat, stone coping and golden marsh marigolds shining against the gray of the wall and the green of the grass, across the Skagway River and through groves of spicy, fragrant balsam-poplar, the train speeds. The canyon looms ahead, but of its terrific, awe-inspiring grandeur no hint is yet given, all is so gentle and beautiful and bright in the outskirts of this little town.

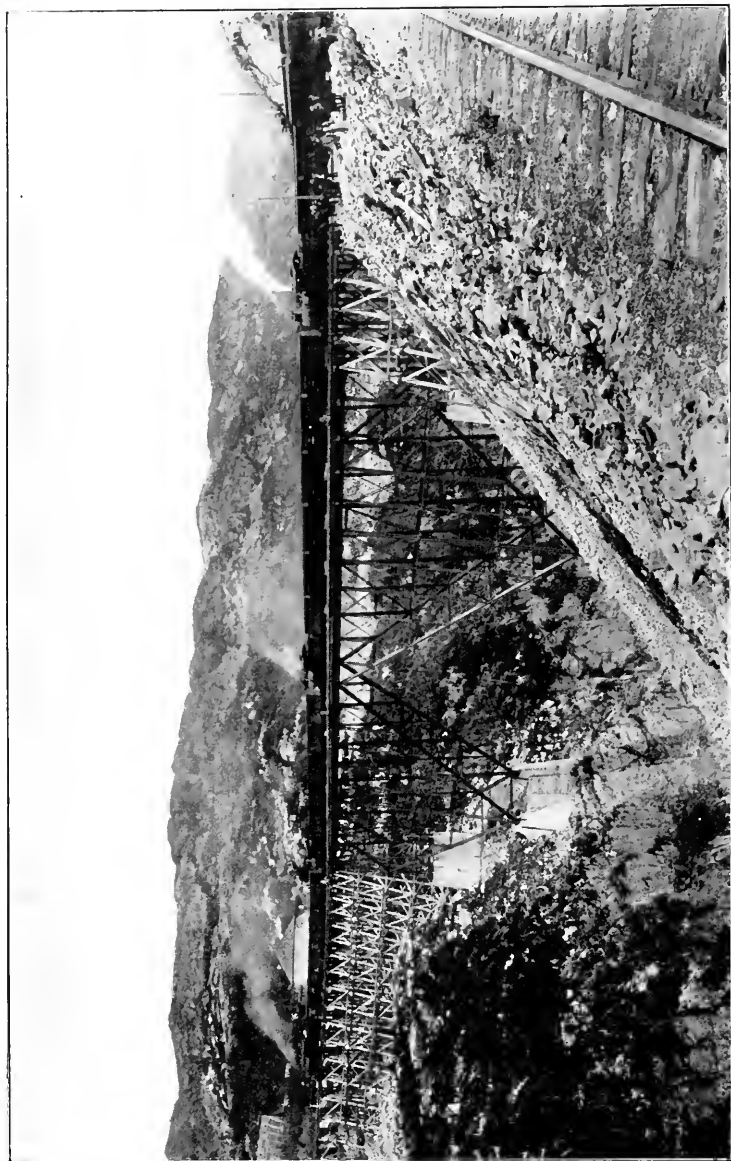
But soon the climb begins. The tree tops drop below the eye — a sea of green through which the river wanders. Gorge after gorge opens, to right, to left, before, behind, — narrow, walled-in, far-reaching spaces, blocked with snow mountains in the distance. Back down the canyon the eye follows the windings of the Skagway River and out over the blue Lynn Canal to the snowy range across the water.

But the walls of the canyon begin to close, shutting out all but their own grim, inaccessible sides. The river roars below looking as if it would tear the very foundations of the earth away with its mad strength. Across its seething waters a faint trail is occasionally seen winding over the upended boulders, among the tangled bushes, along precipitous slopes. One wonders how the stam-peders ever made their way for scarcely a secure foothold can be seen. Sheer desperation must have goaded them on. Courage itself would fail before such barriers. When this trail is seen, it is easy to realize why the song of the little golden-crowned sparrow that flits among the bushes was said to be, "I'm so weary," and why the bird was called, "Weary Willie." The gold seekers were hearing in its voice their own feelings.

Up and up the panting engine climbs. Alaska does everything on a big scale and she begins her tremendousness right here at her threshold. No putting of words

together can describe the terrible, awe-inspiring beauty of this canyon. Terraces of bare rock rise steeply one above another. Bare, jagged peaks tower sharply against the blue sky, too sheer even for snow to lie upon them. Now and then, the old trail shows itself, worn like an old door-sill into the bare rocks by the tread of many feet. Every little while a slender, weather-beaten stick held up by a little pile of stones tells of one who found the struggle too great and lay down by the trail and died. The next comer mercifully covered the body as best he could, stuck up the willow wand to tell the tragedy, and went on. Far down in the canyon can still be seen a few tumbledown shacks, all that remains of White Pass City, the first stopping place in the days of the stampeders. From here to the summit is Dead Horse Gulch where three thousand horses and mules died in three years.

But the tragedies of the past are forgotten in the glories of the present. One seems to be riding on the crest of the world. Back down the gorge, one looks straight for a distance of twelve miles and sees Skagway nestling at its mouth, Lynn Canal beyond, and against the sky line the mistily blue, snow-capped mountains. Across the canyon, a great waterfall leaps down three thousand feet in a series of foaming cascades. Bare, bleak peaks cleave the sky, great sheets of snow in their gorges. Clinging close to the side of the mountain, a thousand feet in the air, the road winds around the head of a tremendous gorge, going eight miles to achieve one. Torrential streams pour down the sides. The snow-white expanse of glaciers comes into view. Mountain peaks rear their heads over other mountain peaks, a great, jumbled world of uplifted snowy crests. Carefully the train winds onward over ravine and gulches that leave one gasping and dizzy at what does not lie beneath. The river is lost from



THE STEEL CANTILEVER BRIDGE ON THE WHITE PASS ROUTE

sight so far does it roll below. A tunnel yawns and the train shoots into darkness, and then out again into the wonderful panorama of mountain top and vast dizzy depths. Over a great cantilever bridge, the farthest north bridge of its kind in the world, that spans with its interlaced network of steel a mighty ravine two hundred and fifteen feet high, past perpendicular rocks like sentinel gateways where the river has broken through, on, breathlessly up and up into a world of ever increasing wildness and grandeur, the train climbs, and then at last out into a level breathing space, White Pass, and the canyon has been conquered.

Up and around and through it toiled twenty years ago the gold seekers, often with the temperature far below zero. Admiration for them grows and one can understand why those little slender sticks drooping over their pile of stones are sometimes less than a yard apart.

The task of building such a road can scarcely be imagined. But the work went forward summer and winter. When there seemed no way at all to locate the grade, men were let down with ropes from the heights above. When great drifts of snow blocked the way, they were shovelled off. No obstacle was too great to be surmounted, the spirit one finds throughout the Territory. In the summer, shifts of men worked day and night. One of the men who had the task in charge said that at one time when conditions were especially serious he never sat down for two days and nights.

At the summit, where one of the construction camps was located, the ice festoons that formed in the dining tent in winter from the steam of the near-by cooking had to be swept down previous to each meal, and then would often form again before the meal was over and drop pieces of ice down the backs of those eating. The men

ate with coats, hats and gloves on, so cold was it. But they were enthusiastic workers, for the bigness of the undertaking had hold of them and discomfort weighed little.

The base of supplies was a thousand or so miles away, for everything had to be brought from Seattle or Vancouver. There were no connecting telegraph lines in case extra or unusual supplies were needed. The sailing of steamers was uncertain. Tremendous quantities of supplies were necessary. In one place a cliff one hundred and twenty feet high and seventy feet thick had to be blasted and required a large amount of powder. Not only did all these things have to be brought from the States, but after arrival at Skagway, they had to be packed up the trail to where the men were at work.

Fortunately, the workers were an unusually intelligent class of men, for many of them were the gold seekers who were glad to work in winter while waiting for navigation to open into the interior. Others needed to replenish their capital and found this a good opportunity. To be sure, this good fortune had its disadvantages, for when news came of the strike at Atlin, fifteen hundred of them threw down their picks and shovels, drew their pay, and started pell mell for the gold fields.

At White Pass, the summit, British territory is entered, and the Stars and Stripes and the Union Jack fly side by side. It is a world of bare rocks and mountains among which lies a little slender lake, great in importance though small in size. For this, it is claimed by many, is the real source of the Yukon River, which rising thus only about twenty miles from the ocean yet sends its waters more than two thousand miles to reach it.

The Yukon River somewhat resembles Homer in that many places claim its birth. Summit Lake has its advo-

cates. Atlin Lake makes insistent claim. Pelly River raises its voice, and so the tale goes. But all are contributing, and if the Yukon itself could speak, it would, no doubt, point to the fact that on its broad bosom flash the waters from all three and more.

The road now winds by lakelets and streams with snow mountains guarding the horizon. Clumps of dwarf spruce, low willows, blue lupines, and other wild flowers make the scene one of gentle beauty and rich color. Little grassy swamps, while adding to the beauty of the picture, must also have added to the trials of the stampeders, and the tale of the willow wands continues. It is, no doubt, these tales of hardship in the early days that still linger in memory and make Alaska seem an inaccessible place. But one rides to-day in comfortable observation cars with excellent meals provided en route and everything done that can be thought of by courteous officials for the full enjoyment of the trip. The hardships of the early days are now only a memory that add for the traveller of to-day a romantic interest to the route. And he can enjoy what undoubtedly these pioneers could not, some of the wildest and most stupendous mountain scenery the world knows.

Various small stations are passed; one, Log Cabin, was a favorite stopping place with the gold seekers, and in those days boasted a good-sized hotel. At one place is a well-filled cemetery. It is said that every man buried here died with his boots on.

Soon Lake Bennett, named for James Gordon Bennett, is reached, and the road winds along the shores of this entrancing sheet of water for twenty-eight miles. Blue and green and violet it stretches, a wondrous shimmering sheet of varying color. At times the mountains close in, their snowy peaks reflected in its placid waters. Again

the higher peaks sweep away until they become soft blue outlines in the distance, and near at hand low hills rise, some a soft rich red, thus adding still another lovely hue to the wonderful coloring of the scene. The air is sweet with the spicy pungence of the balsam-poplar and the breath of the wild flowers that fringe the road with a border of blue and gold and rose. After the wild, gripping grandeur of the canyon, this scene with its gentle shore lines, its dainty flowers, its lovely colors, its pure, clear reflections is refreshingly restful.

But though so gentle in its beauty, this part of the road was one of the costliest to construct. Almost every foot of the twenty-eight miles had to be blasted from solid rock.

If weird figures loom in the distance, one need not wonder if, like Rip Van Winkle, he has entered a mountain region of gnomes and imps. Two such figures seen far down the track, one apparently bearded like a pard, and with black hair falling to his waist, the other a good imitation of Father Time, turned out to be merely men wearing the fashionable Alaskan headdress, a mosquito net, one net being black, the other, white. These nets are a good protection during the mosquito season, which lasts, it is said, until the middle of July. They consist of a length of fine mosquito mesh or veiling, falling to the shoulders with a gathering string at the top to hold it about the hat, another at the bottom to keep it snug about the chest, and a light wire or boning in the centre to hold it out from the face. All sorts of fancy nets and masks are sold, but this style is the simplest and most comfortable. Those who are merely travelling through Alaska however, are not likely to need them. They are only required by those who expect to spend days in the open, and even then some people do not find the mosquitoes

annoying. Upon a camping trip in this section, no one had occasion to use nets.

At the farther end of Lake Bennett is Carcross, or as the Indians have poetically termed it, Caribou Crossing, because of the great herds of caribou that at one time crossed here. It is said that they were so numerous that their horns looked like a forest. It took them two months to pass.

The place is but a handful of small houses, mostly log cabins, erected here and there on a patch of sand made bright by clusters of wild forget-me-not and baby blue eyes. But the primitiveness of the town is lost sight of in the beauty of its location, for the blue waters of the lake spread before it and snow mountains encircle the horizon. At some little distance from the village is a native school and also a fox farm, the first to be encountered of this new industry that is springing up in the Northland.

The principal interest of Carcross however, lies in the fact that it is the starting point for one of the most beautiful lake and mountain trips of all this region.

CHAPTER VI

BEAUTIFUL LAKE ATLIN

THE UNIQUE TRIP TO THE LITTLE TOWN OF ATLIN AND ITS FLOWER-JEWELLED STREETS. MOTORING TO THE MINES. CAMPING AT LLEWELLYN GLACIER. THE BEAUTY OF THIS GREAT RIVER OF ICE AND OF THE SCENERY ABOUT IT.

THOUGH not in Alaska geographically speaking, the trip to Atlin which begins here at Carcross is part of an Alaskan itinerary and is taken by almost every tourist to the Northland, so well known has this lake become for its unusual attractions. Dawson itself is not in Alaska, yet every one who goes to the interior by way of the Yukon not only wishes to visit Dawson by reason of its romantic history but also perforce must, as there is no other route to travel in this part of the country. There is no such compulsion at Atlin, since Atlin lies off the beaten track; but there is the lure of a great mountain lake lying serene and placid under the shadow of snow-capped mountains, of a great glacier at its farther end, of a sunny, flower-jewelled little town, of interesting mining camps, of the wild life of primeval woods and great fish leaping in lake and stream. For these reasons most of the tourists to Alaska go to Atlin and the days passed under the spell of its enchantment are among the most delightful of the trip to the north.

A small steamer is taken at Carcross for the journey. It is a stern-wheeler and draws very little water, and on

it one has the first of the picturesque experiences of a steamer journey in the Northland of taking on wood for fuel. The boat though small is perfectly appointed, a little gem of boatcraft, and it is a pleasure to go over it, from the neat, roomy lower deck where the freight and the wood are piled, through the clean engine-room with its matting and seats like a cosy sitting-room, through the immaculate pantries and kitchen, the dining-room with its cheery open grate and beautiful wood mosaic over the mantel, a bit of artistic work that is justly famed in the North, to the comfortable staterooms on the upper deck and the big, roomy pilot house with its easy wicker chairs where the captain and pilot explain the points of interest and tell tales of the early days.

Into the peaceful waters ahead the boat glides smoothly, a slow, gentle breathing being the only indication that the engines are at work. Low, green-clad hills rise from the shore and throw darkly beautiful reflections in the water. Far in the distance soar the encircling snow mountains, beginning to be touched with a rosy Alpine glow, for the steamers usually leave Carcross late in the afternoon. Graceful wooded points reach out into the water. Little islands try to block the way. Golden Gate, Squaw Point, Seabird Isles, the names run. The water takes on a shimmering silver blue, the mountains a rose, the whole far-away end of the lake vista being blocked with their glowing peaks. The glow of an Indian campfire shines from the bank and the slender lines of a canoe are seen on the beach. A golden moon rides aloft, for though it is still light, it is ten o'clock and the moon must be about its business.

The boat gently glides up to the shore, a gang plank is thrown across to the bank, and sturdy hands are soon rattling on the wood in hand trucks from the rows neatly

piled at the edge of the water. Passengers go ashore to visit the Indian family whose tents and glowing fire make a picturesque note on the beach a short distance away.

An Indian woman, squatted on the ground, is making moccasins, and two little Indian children play about. An Indian man sits by the fire, and under a mosquito canopy near by an Indian baby regards the visitors with solemn black eyes. On the water dances a little toy boat, and at notice of it the old Indian man's face lights with the pleasure of a child's. The woods creep close to the little encampment at the back, the water laps in front; but the friendly fire, the playing children, the frisking of a puppy tied to a log, take away all sense of loneliness.

The hour draws on to midnight and reluctantly the passengers go to bed, for it is not dark and the scene still has its beauty of gentle lines and lovely color.

In the morning the boat is docked at this end of the water journey and a small portage is made by train across a narrow neck of land to the shore of Lake Atlin. This train is unique. It is an observation car in the truest sense, for it is a flat freight car, open at one end and with canvas top and sides. Birds build their nests in it, and it is said that when the young birds are hatched but still in their nests, and the train starts, the old birds fly in great excitement the length of the trip, not knowing exactly what is happening to their home and children.

Atlin Lake stretches for eighty miles, a vision of grandeur not to be equalled elsewhere in the world, say globe trotters. In many places, snow mountains rise sheer from the water's edge, gray, grim walls so steep nothing can grow upon them. Snow lies in patches in their gorges and ravines and covers their tops with a shining mantle. At other points the slopes are gentler, and spruce and fir, birch and willow make a robe of varying shades of green.



LAKE ATLIN

But always in the background even to these lower hills are snow mountains, peak upon peak, not one great, isolated crest, but range upon range filling the horizon in every direction — snow-capped peaks at hand, snow-capped peaks filling in the breaks and gaps between the nearer mountains. And when the water is smooth the lake reflects every peak, so clearly outlined, so apparently without a break, that it is difficult to tell where the one begins and the other ends. "Look! Look!" exclaimed a small child on one of the boats. "Sheep in the water." The passengers gazed in the direction she pointed, saw the reflection, and then looking upward beheld the mountain sheep on a peak above.

When the autumn tints turn the mountains to a glory of color and the red and gold and russet and green soar to the skies and glow in the water below, when all is capped off with the shining snow peaks in the heavens and in the waves, when the waters of the lake stretch away a sheet of blue, when the islands open their alluring vistas of winding channels through this world of brilliant color, the scene is one of unearthly beauty. It is little wonder the fame of Lake Atlin, its coloring, its reflections, has spread.

The little town of Atlin lies on an open, level, grassy meadow, its streets, winding roads that lead out into the country and thickly bordered with wild flowers. A dainty wild flower said by some to be the wild flax powders the ground densely. Lovely bluebells droop their graceful heads, the buds being an exquisite pink, making a color combination that is ravishing. Wild roses, big, fragrant, flaunt their sweet pinkiness everywhere, deeper in color, larger and more fragrant, says Burbank, than any to be found elsewhere. Golden dandelions, purple-blue lupines add richness of color to the blossom beauty on all sides. On the outskirts of the town, great beds of hydro-mag-

nesite three to ten feet thick spread over the ground, giving the effect of sheets of snow. It is used in the manufacture of steel and for fine clay for crucibles and is being shipped out for these purposes.

A stroll through the Indian village is interesting, for though the Indian village of to-day is often a neat little town of frame houses and not at all the collection of tents and outdoor living one expects, it still has unique attraction. Indian women are often to be seen curing moose and deer skins. Bright-eyed Indian children are playing about. The Indian dogs offer innumerable studies of canine life. And the old chiefs and young braves are seen at their usual task of doing little. The walk to the Indian village at Atlin can be continued through a young green wood of birch and willow to a pretty lakelet with a charming view of the surrounding mountains. At the opposite end of the town are some soda springs. Armed with lemon and sugar one can concoct here some good lemon soda water. The waters contain traces of potassium, soda, lime, magnesia and a large amount of carbonic acid.

Among the things worth seeing in Atlin are the collections of furs shown by some of the trappers. One gets to see the furs here just as they are brought in from the wild, and not only are the richness and beauty of the furs a delight to touch and sight but one gets quite an education in fur qualities. There are enormous bear skins to be seen, skins that make one realize the truth of the stories told of the size of Alaska's bears; skins of wolverines; of timber wolves; of foxes of all kinds; of marten, lynx, beaver, ermine; in fact, of every animal that haunts the Alaskan wild. They are all beautiful with the exquisite, soft colorings of the animal's environment — the black and white shadows of winter woods, the powdering of

snow, the glow of warm sunlight — nature's tones in many moods caught and kept to protect the animal from watchful enemies.

One of the delightful experiences of a stay at Atlin is a motor ride out to the mines. The principal output at present is gold, but silver, copper, and antimony have been found. The discovery of gold was made here in the rush of '98 by some of the miners on their way to the Klondike and quite a stampede took place to the creeks in this section, as many as forty thousand people having flocked in here and some \$350,000 being taken out. In fact as has been said, the building of the White Pass and Yukon Railroad was almost brought to a standstill by a large number of its workmen throwing down their tools and starting for the new discovery. An old prospector, now a resident of Juneau, tells how he and his partners, who were among the first, if not the very first, to find gold here, were panning on one of the creeks, not having yet filed their claim as they wanted to be sure they had found pay-streak, when they saw a small boat on the shore of the lake. "We're discovered," they shouted to each other, and leaving the two to look after the camp and the claim, the third "flew" as he expressed it, to the recording office to file.

These exciting days, however, are gone by. The miners now go out to their claims in many cases by automobile. There are little towns along the way and much of the work is done by machinery, crude in some instances, but both time-saving and labor-saving.

The road to the mines runs for a few hundred feet along the shore of the lake, and the sapphire waters and snowy mountains spread a vision of enchantment before the eye. Then it turns, and by scattered outlying houses of the village the car spins, the roadside a sheet of blue

and pink and gold of wild blossoms and the green of grass. Soon it begins to climb through spruce and pine forests, the air spicy with their fragrance, the wayside still embroidered with the pink and blue and gold of the wild flowers. Backward over the hilltops, glorious views are caught of Atlin Lake and chain upon chain of snowy mountains, their sides and bases the ineffable tender blue of far distances.

The deep, fragrant forest closes in again, granite walls begin to appear, and soon the road sweeps along the edge of a canyon where far below a mountain torrent foams over great rocks. Far ahead, glimpses of it can be caught winding through the pine woods before it leaps down between canyon walls.

Soon the little town of Discovery is reached, a place of stores, log houses, a hotel or two, and the primitive cabin near which gold was first found on this stream. The tenderfoot is apt to wonder why the name "Discovery" is so prevalent in mining districts, but the first find in a section is always called Discovery and the other claims located from it, as Number One above Discovery and Number Two below Discovery, and so on.

The stream broadens here and the road winds along above it and over a bridge and into a flat basin between two ranges of hills. Many mines are scattered through here which can be visited and the operations seen. A low tunnel in which is laid a narrow gauge track leads into the mine, a place extremely wet and muddy. In here the men shovel the pay dirt, a mixture of soft earth and cobblestones large and small, into wooden boxes on low wheels, called by a stretch of the imagination, cars. These are drawn by means of a cable run by a water wheel outside, over the little track out to the sluice boxes, where they are dumped, and a rushing stream brought in pipes

washes away the gravel and stones and leaves the shining gold grains on the riffles to be taken out in the clean-up.

It is hard, wet, muddy work, but there is always the pure, crisp, bracing air, the sweep of pine forests, the great uplifted range of snow peaks, the ever luring hope of an unexpected "find," and as one of the miners expressed it, "Nobody to look down your shirt collar while you work." It is this outdoor life, the freedom, the expectancy, that give this work its never-ending fascination to many.

As one speeds along, many stakes of unworked claims can be seen, and abandoned windlasses, and other primitive methods of early days. In contrast to these oldtime hand methods when buckets of dirt were drawn up from below and washed out by hand is a big, flashing ditch and a dredge where endless buckets wound up by machinery bring the earth and it is washed out mechanically by the big dredge within.

Surprise Lake is soon reached, a pretty little body of water about sixteen miles long and a mile wide, dammed up to make it more useful to the miners down stream. Mountain peaks rise all about and little islands dot the waters.

But by far the most glorious trip from Atlin is the one to Llewellyn Glacier. These trips are usually conducted by Mr. L. C. Read, who has a gas launch and a camp at the glacier for the accommodation of those going. Mr. Read is many things, among them a fine musician and an art photographer, but perhaps the greatest compliment one can pay him is to say he is a nature lover of the type of Muir and Burroughs. He is a New England man, well in his seventies, yet sturdy, hardy, and he knows almost every foot of the woods and waters of this region and loves it all, from the tiniest Alpine flower that grows at

the foot of the glacier to the towering peaks that rise to the sky at its source. Not the least part of the pleasure of this trip is his company and the information he gives of the region, which with the stories he has to tell of bird and beast and native make the expedition an experience never to be forgotten.

The launch speeds across the lake, the waters a jade green in one place, a sapphire blue in another, a deep purple in yet another stretch, the mountains mistily shrouded in tints of amethyst, their snow tops shining above. The colors at Atlin are seldom the same, and at times the waters have all the hues of tropical seas.

As the farther shore is reached, the boat turns into a winding passage between Goat Island and the mainland, and the deep green of spruce and the brighter, more vivid green of birch and alder that blanket their sides comes into view. Islands dot the water and little points sweep picturesquely out, sometimes with an Indian camp with its red fire glow and straight, up-curling smoke to add to the primeval charm of the scene. A startled moose may crash away through the woods or a deer come daintily to the water's edge to drink.

Gradually the mountains come closer and rise sheer in some places several thousand feet. In a shining, compact circle they seem to hem the way ahead, their wonderful reflections gleaming from the still waters at their base. Waterfalls leap down their sides, and if the way is blocked, in so lovely a spot one could well abide.

But the channel turns, and past little wooded islands with wild flowers and grasses nodding from the shores the boat glides, out across a wide stretch of water, where ahead, behind and on all sides, mountains rise superbly, their shining peaks glowing faintly pink in the evening light, then into a narrow fiord it speeds, the water a won-

derful jade green, the walls rising sheer and gray with silver streams flashing down their sides, and purple and gold flowers wherever a foothold can be found, on and on over this sheet of green water that shows not a ripple except those made by the boat, on through the stillness broken only by the murmur of the waterfalls, still on and on to the little curving beach at the end and the camp under the spruces. It is midnight, for the start was late, but the clear north light is shining and a thrush is singing in the woods.

Many days could be spent here, for there are many trails that lure, but the chief trip is to the glacier. The boat takes one across a little arm of the fiord to a tiny beach, where a wee mother bird in wild alarm tries to persuade you to follow her even to her own destruction so that you touch not the tiny eggs in their nest on the sand. Into the spicy spruce woods you plunge by a narrow trail that winds by tiny, trickling rivulets and over mossy logs and by small lakes with ever a wealth of wild flowers by its side — the bluest of blue forget-me-nots, purple-blue lupines, the lovely blue and pink bluebells, golden and white daisies, and other white and yellow and deep red and lavender blossoms innumerable, until you come to a break in the woods and ahead lies the great sheet of ice with magnificent snow peaks guarding it, and jagged peaks of bare rocks rising in it. Stretching in front of it is a plain of gray mud and sand and stones, through which a glacial stream rolls turbulently. In the warm sand, a porcupine is taking a sun bath, and another in the edge of the woods is climbing a tree, the yellowish brown and darker shadows of his coat scarcely distinguishable from the light and shade on the trunk of the tree.

Across the quivering mud, which may turn into a

quicksand before you get back, through the sand and over the stones, which get more numerous the closer the glacier is approached, the route leads until at last you stand at the foot of the ice wall and hear the roar of the stream as it comes from great ice caves underneath, the cracking and breaking of ice, the rolling and rumbling of stones as tiny avalanches start far up the heights and come sliding down.

The front is scanned for ways to climb and at last, on one side, by dint of scrambling, by clutching of snow and ice and rocks of the lateral moraine, progress is made, and the smoother, upper surface of the glacier is reached. It is a sight worth the climb. The sheet of ice sweeping upward to the far sky line sparkles as if strewn with millions upon millions of diamonds. Every point of ice and snow catches the light and flashes its message of brilliant color to the cloudless blue sky above. Deep in crevasse and crevice, tiny streams gurgle, and in these depths shine the most exquisite of azure tones. Far up toward the head of the glacier, snow mountains lie serene and shining. Back over the basin of the bed moraine that has just been traversed, snow peaks lift themselves above the nearer mountains, which are clothed in green and cascaded with waterfalls. A great cornice of snow stretches from one peak to another, smooth, shining, making one long for wings to mount and walk on this edge of the world. Underneath could be seen with field glasses a great ice cave.

But the gaze turns back to the glacier that here in solitude and majestic beauty is silently, slowly, surely, creating worlds, making without turmoil or fret the continents and valleys in which flowers will blossom, fruits grow and grains ripen centuries hence for the benefit of man.



LLEWELLYN GLACIER

But however one would like to stay and study this epic of nature, the return must be made, and down its slippery slopes one cautiously picks his way till the rocks at the bottom are reached and the path taken back over the gray stones and gray sand and pasty gray mud. Stones of many odd shapes and sizes and colors can be found in this moraine, and in the mud and sand are seen the tracks of many wild animals. On this one trip the footprints of a grizzly bear, a wolf, a moose, the tracks of several wild goats, and those of other porcupines than those of the early morning were found.

A second trip in this vicinity that yields a view unparalleled is to the top of Bold Bluff. This rises sheer at the head of the fiord and looks absolutely inaccessible. But the trail winds around it and is quite practicable even for the inexperienced climber. The top is much like that of Glacier Point in the Yosemite for one is straight above the fiord and the camp. But the view is far more wonderful. Ten great waterfalls were counted pouring down the sides of the opposite mountain which, roughly estimated, is two thousand feet high. The sweep of Llewellyn Glacier with its far snow mountains and its moraine and glacial river fills the view in another direction. Two beautiful shimmering mountain lakes nestling amid spruce-clad hills are seen on the third side while the fourth vista is filled with the green waters of the fiord and the lines of its sheer gray walls. It is a panorama of varied and unusual scenery such as it is doubtful if any other one point can give.

CHAPTER VII

ON TO DAWSON

LOSING A LAKE. MILES CANYON. WHITE HORSE RAPIDS AND THEIR TRAGEDIES IN GOLD RUSH DAYS. WHITE HORSE AND ITS BUSINESS OPENINGS. THE UPPER YUKON AND ITS PICTURESQUE SCENERY. FIVE FINGER AND RINK RAPIDS. FORT SELKIRK. THE EARLY HISTORY OF THE YUKON. THE PELLY AND STEWART RIVERS AND OTHER IMPORTANT TRIBUTARIES.

AT Carcross, where the train was left for the trip to Atlin, the journey is again resumed northward. The Watson River winds picturesquely along the route and Lewis Lake is soon reached, a lake, or the remains of one, which has rather a unique history. When the railroad was being constructed, it was found necessary to lower the level of the lake about fifteen feet. Man proposes but other forces dispose. The lake, when it once got started, was not to be stopped. The water cut its way through the soil till the banks were like a canyon, and the level was lowered seventy-five feet instead of the desired fifteen. The water rushed forth a veritable Johnstown flood. Fortunately, the country was not settled or great damage would have been done.

Many other small lakes are passed and then the famous Miles Canyon, named for General Miles, is reached, the dread of early-day gold seekers. The canyon can be seen from the train. Deep and dark are the depths within the sheer walls and the current sweeps through with terrifying force. About in the centre is a whirlpool, a basin nearly one hundred and fifty yards in diameter and with

steep, sloping walls where the crest of the waves must be ridden or the hapless voyager will go round and round. Beyond this the water plunges ahead with still greater swiftness and violence, for the fall in the lower part of the canyon is steeper than at the beginning. The canyon safely passed the danger is by no means over, for the White Horse Rapids loom ahead, and the seething froth and fury of this sheet of water make the stoutest hearts quail. At the lower end, the banks close in, making the channel narrow, and the waters swirl and leap with tremendous strength while hidden rocks add to the perils of navigation.

The White Horse Rapids were named, it is said, for a Finn drowned here, whom the Indians called White Horse because of his flaxen hair and great strength.

Many lives were lost in the early days in these two places. It is said that the gold seekers, eager as they were to reach the gold fields, would sit around at the head of the canyon getting their courage up, then take a few drinks and start. At one place in the rapids is a large rock over which the waters boil. It is said that at the sight of this those furiously chewing tobacco to keep up their nerve swallowed their nerve tonic at one gulp.

Numerous stories are told of the experiences of these early days. Once a boat was seen whirling down apparently unoccupied, but while the watchers gazed, a man was seen to sit up and take a look. He had tied his boat as he thought securely and gone to sleep. But it had broken loose and started on its perilous voyage. When its owner saw where he was, he lay down in the bottom of the craft and gave himself up for lost. But the boat went through all right. Another voyager, who had worked day and night and saved every penny possible to get his outfit, was wrecked and lost all. Courageously

he went back to the task of earning another stake. Again he set forth and met with the same mishap, managing to save his life but nothing else. Again he set himself to the task of earning and saving and the third time ventured the rapids that had robbed him without mercy. Again his boat and all his goods went beneath the waves. Finally he reached the bank, got a rude board, lettered it, "Hell can't be any worse than this. I'll take a chance," and committed suicide.

Before the days of the gold seekers, it is said that scarcely a dozen men had passed through the canyon and rapids and lived to tell the tale. But nothing could stop this intrepid host. Into the yawning jaws of the canyon they sailed, rode the whirlpool, rushed through the lower end, swept out into the first swirl of the rapids, dashed on into their white, seething fury, and landed wet and breathless on the bank below, or gave their lives to the clutch of the chaotic waters.

So many lives were lost that finally the Northwest Mounted Police, which did such admirable work all through these days, took the matter in hand, appointed pilots, permitted no boat to go through unless properly piloted, and forbade women passengers.

Another measure of safety was taken by the building of a tramway around the rapids. It was a primitive affair, the rails being made of poles and the cars merely box trucks mounted on grooved wheels. The ties were at intervals of from three to ten feet as convenient, and the rails were spiked to them as inconsequentially. Occasionally on sharp curves, the outside rail was faced with iron plates. The cars were pulled by horses. The track wound through ravines, over gravel ridges, and here and there out to the banks of the rapids. Its path through the woods can still be seen as well as here and there some of



WHITE HORSE RAPIDS

the old rails. Primitive as it was, it saved many lives and outfits.

To-day, however, the passengers in comfortable cars view the canyon from the train and take an automobile out to the rapids. The thrill of adventure remains only in story.

White Horse is a pleasant little town backed with high bluffs and with the river in front. The streets are broad and clean. There are a number of good stores, several hotels and churches, and the barracks of the Northwest Mounted Police, neat buildings, many of them of log, set in a level, grassy space with flowers and paths bordered with whitewashed stones to lend a homelike air.

The Royal Northwest Mounted Police, to give them their full title, is an association known the world over for the reign of law and order it establishes wherever it goes. In fact, so famous is it for bringing law breakers to justice that they are careful to keep away from its realm. In the early days of the gold rush, it won wide renown for the way it handled the crowd that poured over the mountains into British Territory. Where, on the American side, all was confusion, the moment the boundary was crossed, all was system. In those days, and the practice is still adhered to, a register was kept of all persons starting for Dawson with a description of them and of their outfits and the name and address of the nearest relative. Copies were forwarded to Dawson. Upon the arrival of the newcomers at Dawson, they had to register, and those who did not register within a certain time were looked up. In Dawson during all its turmoil, there was little lawlessness in the way of theft and murder. In thirteen years there have been but twelve murders and every murderer was convicted and executed except one who died before the date set for his hanging.

Although one begins to feel that he is touching the edge of the Far North here at White Horse, for here the trip down that river of the North par excellence, the Yukon, begins, he is about in the same latitude as Petrograd, which is not thought of as being out of civilization — geographically.

Many mining interests centre around White Horse, for it is in a good mineral belt, but actual operations languish owing to the cost of getting in supplies. Mining experts have pronounced the copper belt here to be one of the largest mineral deposits on the American continent. Immediately to the west of the town is a copper belt fourteen miles long. Where work has been done, rich and large bodies of copper have been exposed. One working shows a body of ore, thirty feet wide, five feet of which carry ten per cent copper while the balance shows four per cent together with good values of gold and silver. Another mine produced thirty thousand tons of six per cent ore in the first fifty feet.

Silver has also been discovered, one prospect showing leads varying from one to seven feet, and carrying from fifty to three thousand ounces to the ton. These leads run for thousands of feet.

Coal is another product of this district, and not far away is the water power of the White Horse Rapids which can be harnessed to help work all these deposits. With the development of the country and lowered cost of transportation this will, no doubt, one day be a great centre of mining, smelting and allied industries.

It is doubtful if many can stand on the deck of one of the flat-bottomed, stern-wheeled boats that ply down the Yukon and not feel a thrill as it glides out of its dock at White Horse for the trip down this great river of the North. The experience is akin to that first slow quiver of

the Atlantic liner that tells one he is actually off on that first momentous trip to Europe. The setting is vastly different, the boats are different, the passengers are different; but the two events are apt to stand out as two of the thrilling moments in one's life, for in each, one is sailing into such new, strange, but long anticipated worlds.

The trip down the Yukon is unique in many ways. The wild, untamed beauty, the sense of plunging into the primeval, grips the imagination and the heart. One comes to feel a love for this great river and the vast stretches of wilderness that border it, a love that takes hold of one and never lets go its grasp. One may never return, but one never forgets that great, swiftly flowing stream and its wooded shores that stretch for thousands of miles with only a lonely log cabin here and there to break the solitude, or a little group of log houses clinging together in friendly fashion on the bank, tiny outposts of civilization on the edge of the wilderness. The vastness, the loneliness, the silence take hold of one and weave a mantle of fascination that wraps one round about and sets him to dreaming.

Then, too, the trip is unusually restful. The steamers are modern and thoroughly comfortable. An observation room forward with big, easy chairs enables one to view the scenery at ease and sheltered from wind and sun. The table is excellent. Indeed, it is a cause of comment that such variety of delicious food can be served so far from the base of supplies. Fresh fruits, salads and such delicacies are on the menu. The creature comforts thus provided, one has nothing to do but to enjoy the strange scene that slips like a panorama before his eyes.

The boats usually leave White Horse in the evening, but, as the hymn says, "There is no night there," so the hour of departure makes little difference in the enjoyment

of the scene. In Alaska in summer the clocks might as well take a vacation for one pays little attention to them. One can read as easily at midnight as at noon, and one seldom goes to bed until one or two o'clock. Yet there is little sense of fatigue or sleepiness, which perhaps proves that these things are, after all, only matters of habit.

The boat slips from its dock almost without motion and without noise, the only sound indicative that the engines are at work being that same soft, gentle breathing that one heard on the steamers for Atlin. Forward into a broad, round basin the steamer glides and then turns and heads down the river on a pathway of gold into the setting sun. The "bone-yard" where unused and disabled boats are kept is passed. Among them is the first steamer on the Yukon and also a boat that came through Miles Canyon and the White Horse Rapids. Beyond this is an Indian reservation and its homes, and then nothing lies ahead but the sky glowing with purple and rose and gold and the water shimmering with the same lovely hues. High, cut banks hem the river in, a pale putty color in tone, and straight and sheer like palisades, their tops fringed with slender, spire-shaped spruce that is delicately reflected in the water, making a border of dark shadows and a trembling tracery of green for the rose and gold tints of the channel. These high, cut banks add a peculiar note to the scenery and play an important part in the unique charm of the Yukon.

The channel is as varying as a coquette's moods. It broadens, it narrows, it turns sharply around high bluffs, it runs primly ahead as if it would never again turn from a straight and narrow way. The boat, too, seems to have peculiar and varying methods of travel. It seems to be swiftly drifting straight into the shore, but at the psychological moment it turns, and apparently as help-

lessly drifts to the other bank. But there is a keen eye and a strong hand at the wheel, and the boat is being guided surely and safely though it seems to be zigzagging at will down the turbulent current. Piloting a Yukon boat is no easy task. In many places the channel is narrow and tortuous, and it changes constantly. Bars are formed, old channels filled, new channels made. One almost has to listen to the voice of the water as it ripples over bars and mud banks or glides silently through the deep places. But the captains on these boats are men who have sailed the Yukon many years, and they know its ways and speech, and the strange movements of the boat are but its response to their guiding hand.

At times the high, cut banks disappear for a brief while and in their place are low, flat shores brightly green with grass and alders and willows, and glowing with fireweed and other wild flowers. Distant mountains appear, some with patches of snow. Flocks of wild duck spring up and hurry away on fluttering wings. The colors of sky and water deepen. One is not sailing on an ordinary stream, but over rose-tinted snow peaks, and green trees, and shimmering stretches of faint amethyst and deep blue and gold.

Then the cut banks appear again with patches of volcanic ash showing faintly white. The glowing colors fade and the world becomes a place of silver water and black shadows, and the boat sweeps out into Lake Lebarge, a great, placid sheet of water hemmed in with hills sweeping up at times into good sized mountains, then dropping to low, rounded summits giving a beautiful shore line. The lake was named for Michael Le Barge of Montreal, Canada, a member of the exploring party sent by the Western Union Telegraph Company to find a practicable route for a telegraph line across Bering Strait and

to the west of Europe. This party did not reach this section of the country as their work was at the mouth of the Yukon and on its lower reaches. But Le Barge heard of this lake and described it to others so glowingly that it was called Le Barge's Lake.

From the lake the course lies through Thirtymile River, a narrow, tortuous channel, more dangerous, it was said, to the crafts of the gold seekers than either Miles Canyon or the White Horse Rapids. It is full of sunken rocks and reefs, gravel bars and upstanding rocks, and the current is swift. But the Yukon boats navigate it now with little trouble and then come broader and more peaceful stretches as other streams pour in their waters.

The first of these tributaries is the Teslin, Hootalinqua or Hootalinkwa, as it is variously named and spelled. This river drains Lake Teslin and in the days of the stampedes was one of the routes to the Klondike being reached by way of the Stikine River at Wrangell. The name is an Indian name meaning "big fish," as these are found plentifully in its waters.

Beyond the junction with the Teslin River, Cassiar Bar is passed, where may be said was practically the beginning of gold mining on the Yukon, for placer mining was done here in the '80's. Big Salmon, a cluster of log houses, is reached, the mail tossed ashore, and the latest news shouted. The dogs rush to the river bank at the sound of the steamer's whistle and watch anxiously to see if anything will be given them.

The individual to most eagerly await the Yukon boat is by far the Yukon dog. At the sound of the whistle, he appears running at full speed. In fact, some run so furiously they are unable to check themselves on the edge of the bank and turn a somersault into the water. But it only lands them there ahead of the others, so they



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THE YUKON DOGS

do not mind. Far down the bank into the water, and along the narrow strip of mud, they crowd, their faces a picture of eagerness and anxiety. Up and down the length of the boat they range, their eyes on its side, every glance full of heartrending expectancy. "Is it possible," they seem to say as the boat moves off and nothing has been tossed them, "that you are actually going without giving us anything?" The hardest-hearted cook is apt to relent and something is thrown from the galley windows.

A landmark on this part of the river is Eagle Nest Rock, a great bare rock almost fifteen hundred feet high, where eagles nest. Cavities are seen in its side that look like entrances to mines.

Another bluff that soon looms up is the Tantalus, so named by the early traders and miners because of the way it had of appearing and reappearing, by reason of the windings of the river, without apparently ever becoming any nearer. Coal was discovered near here and a coal mine opened and the name given to the mine. Several discoveries of coal have been made hereabouts, all showing prospects of large deposits. The first discoverer is said to have been George Carmack to whom is credited the discovery of gold on the Klondike. Large companies, however, have taken over the mining. The coal in this neighborhood is estimated to be enough to run every steamer, power plant and heating plant in Dawson for many years and could be delivered there for five dollars a ton. A plentiful supply of coal at low cost would mean much to the development of all this section, and if the mines are ever worked to their capacity will be a big factor in the development of the country.

Every little while the high, cut banks reappear and one seems riding through continuous palisades that give a

solemn, almost austere, grandeur to the scene. Sometimes they slant upward with the smoothness and evenness of a railroad embankment, their top as level as if laid with shining steel. Again, when the face is steep and perpendicular, it will be broken with round, knoblike projections clothed with grass. The river is continuously eating underneath these soft banks and earth and grass and vegetation fall in. It is this that constantly changes the channel of the river and fills it with drifting trees and with mud. In the spring, when the water is high and the current especially strong, it sweeps away the bank for miles, carrying log houses, even small settlements with it. All along the river can be seen these wrecked houses and little towns. And those that are left in the light of what has happened look perilously near the shore.

The next point of interest is the Five Finger Rapids, and every one crowds forward to watch the passage through this narrow and famous channel. The walls of the river rise sheer and steep. A big rock in the middle disputes the way while islands ahead make the scene one of unusual beauty. The current is swift and the boat swings in, looking as if headed straight for the rock. But just as a crash seems inevitable, it turns, swings to the other side, and in a few seconds is out in the water beyond. In about twenty minutes Rink Rapids appear and the boat shoots over the foaming waters looking as if sliding down grade. The name Rink as applied to these second rapids always arouses curiosity and the boat officials when asked for an explanation say that the waters make a sound like the noise of a skating rink. But those who have delved into the early history of the river state that the name was given originally to the Five Finger Rapids in honor of Doctor Henry Rink, an authority on Greenland, any name connected with ice and snow evi-

dently being thought appropriate for this section. Later when these rapids became generally known as the Five Finger, the name was moved down the river to the next stretch that needed christening.

When the discovery of gold on the Klondike brought people by the thousands and steamers were put on the river to carry the crowds, the methods of coming up stream were sometimes unique. When the current is strong, it is no easy matter to get a steamer up over these rapids. At present, cables attached to the shore are used. But these were not then thought of or else time was too precious. One captain managed it by arranging with his passengers that when he blew one whistle, they were all to run aft which would raise the bow sufficiently to get the boat up the rise of two feet of the rapids, that when he was half way over the stretch and blew two whistles they were all to run forward, which balanced the vessel like a seesaw and thus he got by.

Beyond the Rink Rapids the scenery grows wilder, the cut banks rising sheer and steep, islands appearing, the river breaking into many channels, rugged mountains crowning the distance. The patches of volcanic ash appear again, and it is said that sometimes the steamers stop and get their supply of scouring material for the silver. Alaska is extremely helpful. She provides bountifully for all needs whether it is gold to buy table service or material to clean it.

Yukon Crossing, the next stopping place, shows the effect of the disastrous spring floods and the breaking up of the ice. An ice jam below the town raised the water twenty feet and swept away houses, drowned horses, and otherwise did much damage.

The names of these settlements are often their most important characteristic. One will be looking for some

semblance of a city, or, at least, a good-sized town. But all that appears is a handful of log cabins on the bank with grass and trees all about and no attempt at streets. They fit their setting however and are far more attractive than would be an attempt at a modern town. The boat runs up along the bank, a gang plank is thrown ashore, supplies and mail taken off, and the boat is away.

Minto, some miles below Yukon Crossing, is a station on the winter trail between White Horse and Dawson, and has a big, log roadhouse and also a station of the Mounted Police. The winter stage road can be seen winding over the hills.

Below this the crater of an extinct volcano is seen and the banks show signs of volcanic rock. Then the waters of the Pelly River come in, Fort Selkirk appears, and the river without further questioning takes its name of the Yukon.

This name is said to be a corruption of the Indian word, "Yukonna," which though generally translated "Big river" has a meaning greater than this in the Indian thought. It is as if they meant, *The River*, as if all other rivers sank into insignificance beside it. The name is one of those words whose fine flavor cannot be carried into another language.

The Yukon here begins to get its first historic interest. Down the Pelly in 1842 came Robert Campbell, factor of the Hudson Bay Company. This company whose headquarters were in Montreal had gradually pushed their trading posts farther and farther west into the wilderness, and Campbell, who had been exploring in the Mackenzie and Liard River regions with instructions to cross the divide in search of any river flowing to the westward, struck across country until he came upon a stream he named the Pelly, in honor of Sir H. Pelly, governor of

the company, and he floated down this in a birch canoe to the Yukon. He did not know the river by this name but called it the Lewes, in honor of the chief factor of the Hudson Bay Company, a name still used by some for this part of the river.

These various names given the upper stretches of the Yukon are puzzling to many travellers. At White Horse, the river is sometimes called the Fiftymile, below Lake Lebarge for a short stretch, the Thirtymile, thence to the junction with the Pelly, the Lewes. But gradually the name Yukon is superseding these, and without doubt in time will be applied to the whole course of the stream from White Horse down.

None of these early explorers and traders on the upper Yukon knew it was the stream at whose mouth the Russians had built Redoubt St. Michael. In those days it was believed that the Yukon emptied into the Arctic Ocean, the Colville River being thought to be the same stream.

Campbell decided that the junction of the two streams was a good place for a trading post and as soon as he could get supplies from Montreal, which was no easy task since they must come overland through the wilderness, he established a fort. While waiting, he went on down the stream on an exploring trip to Fort Yukon, a post of the Hudson Bay Company farther down.

But the post Campbell established was not left undisturbed. The Chilkat Indians of the coast, who found their trade dropping off with the Indians of the interior, the Stick Indians as they were called because they came from a region of sticks as compared with the big timber of the Chilkat country, decided to investigate. They discovered the fort, soon learned the reason why they were getting no more furs, and fell upon the place and destroyed it. Campbell escaped, made himself a raft of

driftwood bound together with withes cut with his jack-knife and floated down the Yukon until he met a party of his own traders. He secured supplies from them and set out across the wilderness for the East, being anxious to get permission to rebuild the fort. But though he finally carried his request to London, his wish was not granted and Fort Selkirk or what remained of it was abandoned. This remarkable journey from Fort Selkirk to London, a distance of ninety-seven hundred miles, more than three thousand of which he travelled on snowshoes in the dead of winter through practically an uninhabited wilderness, shows the mettle of the man, and is but one of many similar records of which this North country abounds.

Near the site of this old fort, the present settlement of Fort Selkirk is located, Arthur Harper, a trader whose name is associated with activities along the Yukon in the gold mining days, having established a post here when miners began to come into this section. It is the most pretentious settlement on the river since White Horse. Quite a number of houses are scattered along the bank and there is a school house and a general store. Indians stand in groups impassively watching the boat, one young girl making one think of a shy, wild bird, so sweet is she in her modest grace and charm.

A miner left the steamer here with his outfit for a three hundred mile trip up the Pelly in a poling boat. Much of the pleasure of a trip on the Yukon is the meeting with these hardy pioneers and hearing their experiences. To see them trudge hopefully away with their pack on their back, or start in some little boat for a trip up some lonely river is to get a glimpse of a kind of life in striking contrast to that of the steamer.

The Pelly down which Campbell came and up which this miner went is a beautiful river meandering in grace-

ful curves through a broad valley. It has many long, smooth, hard gravel bars, and high banks carved into turrets and pillars and other graceful forms. Here and there it plunges through canyons and always in the background are the towering mountains. In the valley of this river now are farms: one of a hundred acres supplies oats and native hay to the roadhouses and miners. The Macmillan River, a tributary of the Pelly, flows through a great mountain sheep country and is a region sought by hunters of this game.

A landmark of the Yukon just beyond Fort Selkirk is Victoria Rock, an interesting study in mountain modelling, for nature has sculptured here an excellent profile of a charming old lady.

At the mouth of the Pelly begin what are sometimes called the Upper Ramparts of the Yukon, a great, rampart-like wall that forms the bank of the river for about ten miles. Its level top and straight sheer drop are impressive and give a bit of unique river scenery probably not equalled elsewhere in the world.

The next two streams of importance to join the Yukon are the White River and the Stewart River. The White River was so named by Campbell because of its color. There are immense deposits of volcanic ash along it, and this pulverized pumice stone in rainy weather is washed into the stream. Its waters are also glacial and this double burden poured into the Yukon beclouds its hitherto sparkling waters.

The Stewart is one of the principal tributaries of the Yukon and has played quite an important part in opening up this region. It is said that every bar of the Stewart River has money in it, and had the Klondike discovery never been made, the Stewart would no doubt have brought many miners to this section. It was discovered

in 1849 and named for one of Campbell's clerks at Fort Selkirk. About two hundred miles above its mouth are Fraser Falls where the river flows through a gorge with falls and rapids, making a pretty bit of scenery, and offering to the speculative eye the possibility of generating horse-power to run dredges on the river. In the Stewart River section are several farms with comfortable buildings, herds of cattle and fields of hay.

The discovery of gold on the Stewart brought trading posts and one was established here by Harper who founded the one on the site of Fort Selkirk, and his partners, McQuesten and Mayo.

The names of this trio are almost synonymous with the early development of all this region. In fact, McQuesten has been called the Father of the Yukon. They came into the country by way of the Mackenzie and the Porcupine, arriving at Fort Yukon in 1873. In 1874, McQuesten established a trading post at Fort Reliance, six miles below the present site of Dawson, and the point from which distances were reckoned which gave such names as Fortymile, Sixtymile to mining camps. As gold was discovered at various places, these men quickly followed with their posts and Circle City, Ogilvie and many other settlements were started.

As the settlements as they are passed recall the stories and struggles of these early days, the journey grows more interesting. The river is ever beautiful. Now wide, now narrow, it sweeps on, sometimes with many channels, sometimes with just one between high bluffs, until at last a high mountain looms on the left, an island in the middle of the stream, two domes on the right, one with a great scar like a cave high on its side, and Dawson appears.

CHAPTER VIII

THE DAWSON OF TO-DAY

A TOWN OF FRIENDLINESS AND CHARM. THE SEAT OF THE PROVINCIAL GOVERNMENT. ROBERT SERVICE'S CABIN. FARMING AT DAWSON. SOCIAL LIFE. INDOOR AND OUTDOOR SPORTS. MODERN METHODS OF GOLD MINING.

THE Dawson of to-day is a pleasant town of neat homes, thrifty gardens, and many flowers, both indoors and out. On the front street, one walks along the river bank which makes the stream seem much nearer and friendlier than when it is shut off by huge factories and railroad tracks. At the rear of the town, the houses climb up the green slopes of Sunset Dome, the homes looking very pretty as they nestle in the green of the hillside. This friendly contact with both mountain and river may be the cause of the town's peculiar charm, for it has a charm felt at once. Across the river, another great, green dome looms, and up and down the stream hills and mountains are seen. But though thus encircled, there is a sense of openness and spaciousness that is a delight, perhaps because the streets are wide and everywhere are caught visions of mountains and wood and stream.

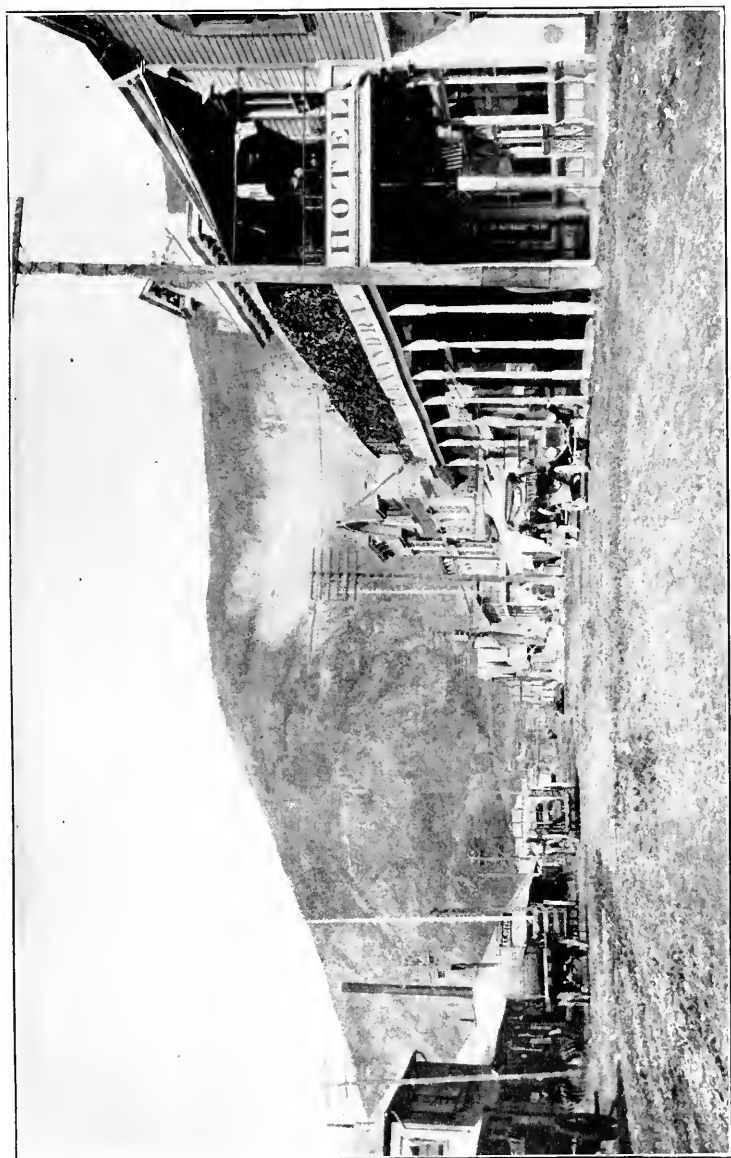
There is also a friendly air in the life of the town. Signs read, "Jimmy's Place," "Sam's Store," and you feel that if you go in, Jimmy and Sam will wait upon you with a cheery kindliness that will make purchasing quite a different experience from what it is elsewhere.

The city is modern in every respect and has electric lights, telephones, many hotels, a good school, a library, and several churches. The school, it may be said to Dawson's credit, was erected in 1901, but three years after the rush. It is a large building with facilities for the teaching of all grades up to honor matriculation into Toronto University. That such a matter was so well attended to in the mad excitement of those days speaks well for the temperament of Dawson.

The most pretentious buildings of the town are the Commissioner's residence, the Administration Building, the post office and subsidiary buildings connected with official work, for Dawson is the seat of all the machinery of the provincial government. Some of the buildings are attractive frame structures several stories in height, surrounded by well-kept lawns, flower beds, and neat fences. The Administration Building can accommodate eighty officials. The Commissioner's or Governor's residence is impressive in appearance and handsomely furnished. Near by is a park where baseball, tennis, and other games are enjoyed. This little centre of a larger life gives quite an urban air to the town and makes it far more impressive than is the usual place of small houses and log cabins.

On one of the outlying thoroughfares which some of the residents of Dawson are endeavoring to have named Service Street, is Robert Service's cabin. It sets back in a grass-grown yard with wild roses and bluebells mingling with the high grass, and with a fence made of small saplings enclosing the premises. The Union Jack flies at the peak of the porch roof and moose antlers lift their graceful lines against the sky.

The cabin is rustic throughout. The porch steps are logs, the railings are of slender poles, and a big porch



MAIN STREET, DAWSON

chair is made of similar poles and saplings. There is one room with a little kitchen back. The cabin is situated on the slope of Dawson Dome and has a fine view down over the town, out across the river to the big mountain on the other side, and up and down the stream to the farther mountains that block the view.

Some children playing in the street when asked once by a curious visitor what the occupant did responded earnestly, "He don't do nothing. He just sits on the porch and then goes in and writes."

The world, however, is not likely to agree with them. His poems are popular with lovers of outdoors, those favored with the wanderlust, and with all who appreciate the spirit of the pioneer. His poems have a big sale throughout Canada and the Northwest, and copies of his works at public libraries are always "out."

Mr. Service was born in England but raised and educated in Scotland, taking some studies at the Glasgow University. When twenty years of age he came to Canada and thence onward to the Pacific slope. While in the Yukon he held a position for some time as a clerk in a bank. Those who know him speak of him as exceedingly quiet and reserved, as one who enjoys listening to the stories which often he later embodied in his poems, but as not entering actively or intimately into the life about him.

The Dawson people are flower lovers. Indoors and out blossoms riot. Window boxes and hanging baskets are everywhere. The streets, too, are well bordered with wild flowers—bluebells, fireweed, wild mustard, wild roses, and other blossoms—giving the town a gay, bright air. Almost every home has its garden, and several hot-houses supply hotels and restaurants with tomatoes, lettuce, radishes, onions, and such delicacies. One hothouse had at one time fifty tomato plants loaded with the lus-

cious red globes and cucumber vines on poles under the glass equally well freighted.

Lettuce, radishes, onions, and such small stuff are started in the greenhouses in February and by March the products are on the market; so that the people of Dawson have these delicacies almost as early as those in the States served from the South. Celery, tomatoes, peppers, eggplant, cucumbers, and the like, are started in March and transplanted to open ground later, in May if the weather is suitable; so that this supposedly Arctic region is not so far behind what are considered more favorable sections.

Back in the hills are many farms. On one of one hundred and sixty acres are raised hay and vegetables, and the owner has a good herd of stock. Oats are ripened and threshed about Dawson, and large quantities of wild hay are cut. Oats that cut fifty bushels to the acre have been harvested, and potatoes dug that produced two hundred to three hundred bushels to the acre.

It was one of the stampeders in the rush of '98 who first started to raise vegetables in this section, and his efforts met with the ridicule initial efforts in a new line are so apt to do. He was laughed at for thinking he could raise anything in this latitude and in ground which only a foot or so beneath the surface was frozen. To the surprise, however, of those who laughed, the man succeeded. The seeds produced fine vegetables for which he got a fabulous price from the eager-for-green-things Klondikers. The next year he planted a larger garden on an island near the mouth of the Klondike River and here his vegetables matured much more rapidly than before. He sold his crops faster than he could gather them, and got such remarkable prices as six dollars a dozen for stalks of celery, thirty-five to fifty cents a pound for turnips, carrots, beets, cabbages and such products. A man who has

a hothouse in Dawson to-day said regretfully that if he had only started to raise vegetables when he first came instead of hunting gold, he would now be wealthy.

The success of this pioneer gardener started others, and the industry rapidly spread. Each year it has increased, until to-day about two hundred acres of land are under cultivation in and around Dawson, and the crops produced compare favorably with those outside.

Life in Dawson has many pleasant social features. The winter, the time when many think that the people sit in semi-darkness hugging red-hot stoves, is the gayest season. There are many fraternal and beneficial societies in Dawson, including the Masons, Yukon Pioneers, Odd Fellows, Eagles, Moose and Arctic Brotherhood, and they give delightful dances. Concerts by local talent of no mean order are also given.

Sleighing, tobogganning, and snow-shoeing are among the outdoor sports. The chief social amusements, however centre around Dawson's Amateur Athletic Association's skating rink, which provides exhilarating sport for hundreds nightly throughout the winter. The Curling Club's rink is in the same building, the membership being one of the largest in the world.

The club building is a mammoth affair costing \$42,000 and is virtually a part of the municipality, and as notable a branch of the Yukon public affairs as the capitol building or any part of the government. It numbers among its supporters and adherents almost every man, woman, and child in the town and many who live out on the creeks. The building covers an area one hundred by two hundred feet and the front part is two stories high. It is lighted by electricity and many of the rooms are steam heated. In addition to the fine sheets of curling ice and the skating rink, there are handball courts, a fine gymnasium,

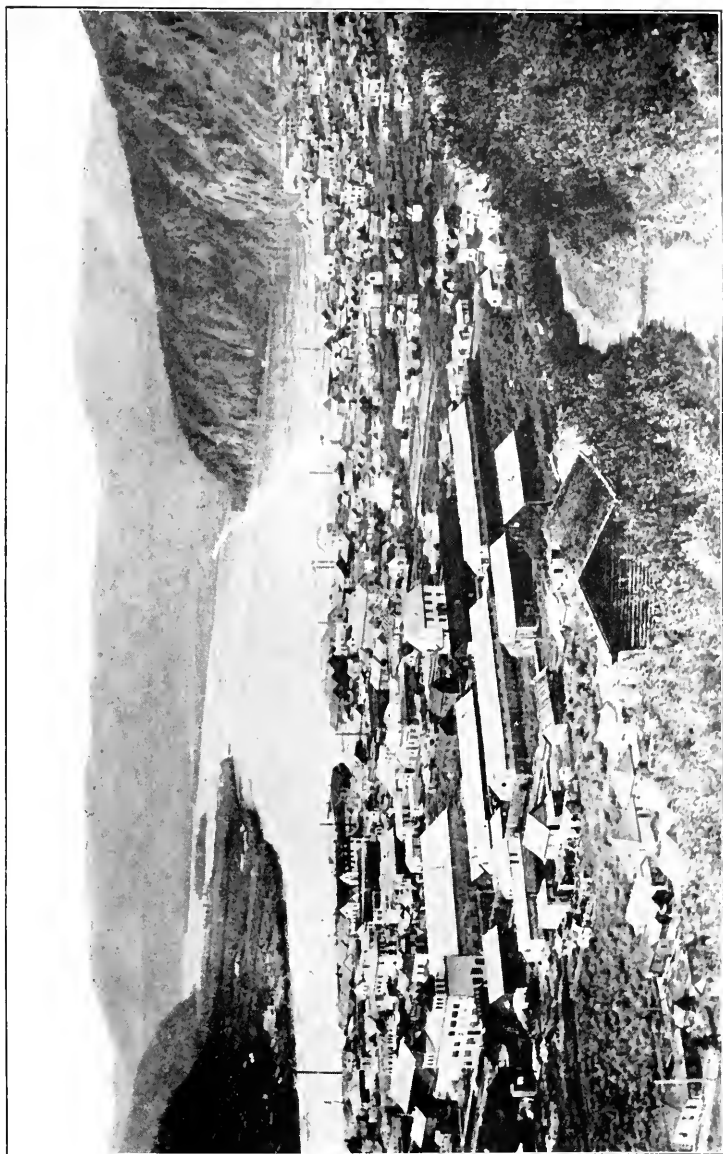
shower baths, a reading room, a billiard room, and a large reception hall. In the summer, the skating rink space is transformed into a natatorium with a tank eighty feet long and thirty-five feet wide and with an average depth of seven feet.

During the summer, outdoor sports come to the fore. Baseball is popular, and the games are played in Minto Park, which was built at a cost of \$12,000. The games are often played at midnight. Indeed the midnight games are rather a feature of Alaskan life. International games are played here and the Dawson team often journeys to other Alaskan cities, one year sending its team to Fairbanks, seven hundred miles away, to compete for the International Championship North of Fifty-three.

Football is played nearly as much as baseball. The Indians have a good team and some spirited games are pulled off. The natives play better with a buckskin ball filled with caribou hair than with the regulation ball. The matches played with the Indians and their ball are fast and furious, for the reason that this ball cannot be sent any great distance with a kick or punch, and the players are consequently concentrated about the ball most of the time. Moccasins instead of shoes are worn, a handicap for the Canadian players, as this footwear hurts their toes, all features, however, which add to the enjoyment of the game by the spectators.

Any one who has seen the Indian team from Carlisle in the States play knows that the Indians put up a good football game.

Dawson has many interesting trips for the sightseer. A climb up the dome back of the town is one of the favorites. The huge scar on this hillside that looks like the mouth of a crater is seen long before Dawson is reached. It was caused by a great earth slide which it is



A BIRD'S-EYE VIEW OF DAWSON

said buried an entire village of Indians. Its resemblance to a dressed moosehide gave the mountain in the early days the name of Moosehide or Mooseskin. But to-day it is generally called Sunset Dome or Midnight Dome because of the pilgrimages made to its summit by midnight "sunners."

The trail winds by fairly easy zigzags up through poplar and spruce and wild flowers innumerable till the bare top is reached about twenty-nine hundred feet above the sea level. A wonderful view is the reward. The river winds away through the hills, a quiet river that knew little but the canoe of the Indian and trader, the flash of the wild bird's wing, and the leap of the salmon, until the stream of gold that poured from the hills brought the world to its bosom. The eye follows this gold stream, the Klondike, back into the hills, among which lie the famous creeks whose sands were gold, and then on to the great sweep of snow peaks that bound the horizon on the eastern edge, the far northerly outposts of the Rocky Mountains.

Another pretty trail leads to Moosehide, an Indian settlement about three miles down the river.

A trip none should miss is a visit to the creeks which yielded the treasures of gold that astounded the world. This can be taken by motor, or by walking if only the nearer ones are visited and one does not mind a walk of eight or ten miles.

The car spins out over a good road along the Klondike River, a mountain wall on one side, the stream on the other. The river is filled with great heaps of tailings from the dredges that are slowly eating their way up its bed, devouring the gold, leaving the stones and refuse behind. The river at times is almost blocked and has difficulty in making a channel. In some places earth has been filled in

between the piles of stones, and little gardens have been planted here. In the early days, up this stream an almost endless stream of prospectors mused, carrying their packs on their backs.

Across Ogilvie Bridge, named for William Ogilvie, Commissioner of the Yukon in the days of the gold rush, the road runs past a large field filled with growing potatoes but only waiting for the dredge to come and extract its gold, past the buildings of one of the big gold mining companies, and then turns up the famous Bonanza Creek. Once this was a clear, dashing mountain stream between enclosing green hills. To-day it is a scene of desolation, a broad flat basin with water trickling here and there and with the hills being washed down by powerful hydraulic streams that sweep away great rocks and boulders and gravel beds as if they were the sands of the sea. The road that once ran alongside the creek bed is now built high above it on tailings and climbs up the mountain side at a good grade, the scene growing more and more desolate. Great black nozzles spout streams that tear down the hills and wear deep gulches in the rock where sluice boxes are placed. These gullies are sometimes scarcely half a yard wide but thirty and more feet deep and are everywhere. Here and there are great pieces of what look like rock standing out in lonely isolation, but in reality they are pieces of ice slowly being disintegrated by the sun. Mountain sides that look like perpendicular walls of white sand are being rapidly washed away by the volume of water dashed against them. Heaps of tailings, running streams of sand, mud, water, deep gullies are everywhere. It is a scene of inextricable confusion and awe-inspiring desolation. Rainbows dance in the water, for nature never forgets to be beautiful, but the green beauty of the hills is gone. Here and there the cabin of an old timer,

the roof fallen in, moss growing over it, speaks of other days and other ways.

The ditch that brings the water for all this work is a wonderful piece of construction. It starts some seventy miles back in the hills, crosses precipitous mountain tops, frozen morasses, deep ravines, wide valleys, rugged mountain chains, and finally delivers its burden by an inverted siphon over the Klondike River to the mining camps.

In the difficulties overcome and the daring novelty of its conception, the enterprise is looked upon as akin to the building of the Panama Canal, except that in some ways greater obstacles confronted the workers here. Supplies had to be brought almost two thousand miles from civilization and much farther than this from factories. Men and machinery had to be assembled far in the interior of a country which, until within a few years, had been thought to be inaccessible. An army of men had to be cared for and fed over a trackless area far from even the helpful Yukon. New methods of road building and other constructive work had to be devised for the morasses and other peculiarities of land which the ditch traverses. For instance, in one place it ran through a glacier, layers of ice being uncovered the moment the upper muck was removed. Cribbing was resorted to, the sides being lined with moss and dirt, thus taking a lesson from the country itself, where pure ice is found many thousands of years old unthawed in the hottest summer weather because it is protected by the natural growth of moss with decayed vegetation and sand filled in between the interstices.

The ditch is made up of nineteen and a half miles of flume, twelve and a half miles of steel and stave pipe, and thirty-eight miles of ditch varying every few miles in methods of construction, in dimension, in grade, in the

nature of the ground traversed. The Klondike River is crossed by a line of steel pipes over a steel bridge built on concrete piers. Ten million feet of lumber were used for the flumes necessary to carry the water of the ditch over ravines and such places.

At the head of a jagged mountain range above timber line is a modern electrical power plant sending its currents along heavy copper wires to the distant valleys of the Klondike to turn the wheels, pump the water, elevate the gravels, wash the black sand, drive the dredges, and light the works at night. Here in these creek valleys where all this work is being done are many inventions for mining devised to meet conditions in the North. One of these is the electric elevator, or the electric dredgeless dredge, as it has been called. This elevator cleans out the last vestige of gold from the creeks before the hills are washed down on them. It works on the principle of a dredge but without the pond, this being replaced by a sumphole into which the surrounding gravels are hydraulicked. From the top of the steel tower carrying the string of buckets runs a line of sluice boxes into which everything from the sumphole is elevated or pumped. By this method large areas of bedrock are finally exposed and drained. Then men get to work with shovels and picks and scrapers and the bedrock is cleaned of every particle of gold. Each bucket holds three cubic feet of gravel and there are seventy-six of these buckets in a string. Twenty-four buckets are dumped every minute.

The ditch is a great feat of construction within the shadow of the Arctic Circle of which Dawson may well be proud.

Such are Dawson and its mines to-day. The Dawson and its mines of yesterday are a different story.

CHAPTER IX

THE DAWSON OF YESTERDAY

ORIGIN OF NAME KLONDIKE. THE TWO CLAIMANTS FOR THE HONOR OF DISCOVERING KLONDIKE GOLD. THE EARLY ARGONAUTS. THE CITY IN GOLD RUSH DAYS. ITS TRAGEDIES AND COMEDIES. THE FIRST CHRISTMAS. THE HARDSHIPS OF MINING.

BEFORE the discovery of gold on the Klondike roused a part of the world to semi-madness, the little, flat stretch of land between Sunset Dome and the river was covered with scrub timber and wild grasses, and fringed with alders and willows along the bank of the stream. Its likeness can be seen to-day in thousands of little, meadow-like expanses along the Yukon, perhaps in time to be the scene of just such frenzied crowds as was Dawson, for no one can venture to prophesy the surprises Alaska has for the world. Across the Klondike River, which flows into the Yukon here, was another little flat lying under the shadow of a big, rocky cliff. Here were a small Indian settlement, a few cabins of white men, and the ever present saloon.

The Klondike River was a famous salmon run and the Indians living at its mouth drove stakes in the water here to compel the fish to enter traps set for them. These stakes had to be hammered into the gravel of the river bed and the Indians called the stream Trondig, or Hammer-water, Tron meaning hammer, and tiuck or diuck, pronounced tig or dig, meaning water. McQuesten and Harper, the traders who had established a post at Fort

Reliance about six miles down the river, used this name in speaking of the place and it gradually became corrupted to Klondike which eventually came to stand for the whole district.

Down the Yukon at Fortymile, up the near-by Stewart River, and on various creeks and bars, a few miners were working. They had been drifting into this section since the early '80's and by 1896 several hundred were scattered throughout the district, making all the way from a few dollars up to a hundred and more a day.

Near these mining settlements, the traders, Harper, McQuesten and Mayo, had, as has been said, established posts; one at Fortymile, another at Ogilvie opposite the mouth of Sixtymile Creek, another at Fort Reliance near the present site of Dawson, one at the mouth of the Stewart River, one on the site of old Fort Selkirk. In fact, wherever the news of a gold discovery brought miners, one or the other of these traders followed. Thus half a dozen or so of these log trading posts were located along the river, and they became the central points for news of gold strikes.

As far back as 1859, one of the Hudson Bay clerks had written home from the post on the Yukon River where he was working, "There is a small river not far from here where gold has been seen so plentifully that it could be gathered with a spoon. I have often wished to go but could never find the time. If I could only get time to make an expedition up the Yukon, I expect I could find it in abundance."

The miners, however, let nothing interfere with their search for gold. Up and down the river, back on the creeks that emptied into it, and across the mountains that hemmed these streams in, they went with pick and shovel, eyes alert for the shining metal.

The finds were comparatively small and news of them trickled slowly to the outside. But, nevertheless, a thin stream of prospectors kept coming. Among these was Robert Henderson of Nova Scotia, who arrived in 1894 with a small party of miners and began prospecting on the upper Yukon and the Pelly. Continuing down the river, the party stopped at Fort Reliance, and here Henderson was told of gold on the Indian River, a stream across a low divide from the Klondike.

It was comparatively virgin ground, for the news circulated at these posts was often the merest conjecture, no one perhaps having found gold in the district under discussion but simply believed it to be there because of the formation.

However, what Henderson heard was sufficient to make him desire to prospect the territory and he spent the winter and the following year working various small claims in this section and panning out some six hundred dollars' worth of gold. Eventually in this work he crossed the divide to a stream he called Gold Bottom and which he believed flowed into the Klondike River. On the way back to his claim from Ogilvie whither he had gone for supplies, he decided to ascend the Klondike River.

At the mouth of the stream he met George Carmack and two Indian companions, Skookum, or Strong, Jim and Tagish Charlie. Henderson told Carmack of Gold Bottom and invited him to come and stake. Carmack said he would and that he would bring his two Indian friends. To this Henderson objected, as he did not wish the stream to be staked by Indians, and there was some little dispute about the matter. But finally they parted on apparently good terms.

For some little while Carmack did not go, but finally he and the Indians decided to accept the invitation, and

they started going by way of the now famous Bonanza Creek and across the divide to where Henderson was working. Some say that on the way Carmack found some gold on Bonanza Creek. Others claim he did not discover it until on the way back. But if he did find it he said nothing to Henderson about it. Carmack and his friends seemed to think little of the ground Henderson was working and soon left, returning by the way they had come.

When again on the Bonanza, Carmack shot a moose and took a piece of it to the stream to wash. While doing this he saw gold in the water, and getting a pan quickly washed out a greater quantity of nuggets than he had ever seen in a single pan. He staked a claim and the Indians with him also staked. The news of course was soon known and miners flocked in from all near-by camps. Henderson, across the divide at Gold Bottom, knew nothing of it till the creek bed was all taken. So, though it was found because of his invitation to Carmack, Henderson received no benefit from it. He is, however, by some looked upon as the original discoverer of the Klondike, because he was the first to do any continued mining in this region and by reason of his work Carmack and the thousands of others followed. No doubt, though, he would prefer, like some of Omar's followers, "To take the cash and let the credit go."

The effect of the news upon the world is historic.

The farthermost parts of the earth contributed its quota of men—and women. From Sidney and Melbourne, Australia; from Hong Kong and other parts of Asia; from Cape Town, Africa; from London and Paris and Petrograd; from cities and villages and farms of our own country they poured. Many a dignified, white-haired official of some big, metropolitan company will

tell to-day with a flash of his eyes that shows a relish for the adventures of those days still lurks under his suave exterior, of his amateur boat building, of his eager, hopeful search, possibly of his failure to find what he was seeking. But there is little regret for the quest. The zest of the seeking, after all these years, leaves a flavor that is still good.

Various were the routes by which these modern argonauts sought this Eldorado — by the Stikine River and Lake Teslin, by the Chilkoot or White Pass, by St. Michael and up the Yukon, some even across the interior from Valdez or Cordova, little knowing the vast region and the tremendous mountain ranges that blocked their way. Almost as difficult was the route taken by some via the Mackenzie River and the great Arctic plain. One man who came in this way said his party were more than a year getting in. His face was grave and his eyes reflective as he said it, as if he were seeing again that year of hardship, sheer endurance and grim perseverance that brought them through. Nearly all, however, foregathered at Seattle for the first part of the journey by boat.

Seattle was not ready for such an influx. Boats for such numbers were few. But the stampeders would not wait, and so they put forth in all sorts of craft loaded to the water line. Boats that had accommodations for twenty carried three hundred. Meals on some were served in wash tubs, each man taking a plate, dipping out what he wanted, and sitting where he could. On others, the serving of meals went on all day, so few could be served at a time owing to the cramped quarters. In such state they sailed through the beautiful Inside Passage or took the outside route to St. Michael. There are insufficient buoys and lighthouses to-day, and in those times there were still fewer. Often the only way to discover

the proximity of dangerous shores in a fog or at night was to blow the whistle and listen for the echo. So that added to the discomfort of the trip was the constant danger of shipwreck.

The majority landed at Dyce and Skagway and rushed for the interior over the Chilkoot and White Pass trails. At first there were no wharves, for like Dawson these places sprang into being with the coming of the stampede. Goods and passengers were loaded on scows and lightered ashore, often to be stranded on the mud flats if the tide was low or swamped if it was coming in. Horses were put overboard and compelled to swim. It was a scene day and night of commotion and confusion.

Dyce, and, later, Skagway, were filled with a motley, enthusiastic, excited crowd of between thirty and forty thousand people. Supplies of all kinds were piled on the beach, on open ground, in tents, in such structures as the town had. Horses, mules, dogs abounded. Criminals of all kinds flourished. Gambling dens and dance halls were on all sides. Men with plenty of money one day would be penniless the next. But every one was so eager to get on that no attention was paid to the tales of distress told. Cries for help, shouts of murder, the crack of firearms, the rasping voice of music hall singers, floated on the air day and night. "Fights were so common," said one man telling of these days, "that a fellow wouldn't get up even if the bullets came into his cabin or tent."

Singly or in parties, prospectors almost hourly set off for the interior. Over Chilkoot Pass they wound, an unending line of men and women, so close together that if one dropped out from exhaustion, or to fix his pack, the gap closed up and it was difficult to get in again. Each staggered along under as much as he could carry, the packs weighing from fifty to one hundred and fifty



A PACK TRAIN OF EARLY DAYS

pounds. One man, a big, hearty Scandinavian, who came in over the Stikine trail, pulled four hundred pounds on a sled for months.

A similar horde toiled up the White Pass over boulders and trees, along the rushing river, often finding it difficult to secure a foothold.

This tide of humanity never ceased summer or winter. With blizzards filling the air with blinding snow, and almost smothering man and beast, with the wind tearing through the passes with a strength almost impossible to withstand, so that the mushers had to walk in crouching positions and often seek the shelter of trees till the worst fierceness of the blast had passed, with avalanches burying men and women and supplies, they toiled on.

Supplies were cached along the trail. Sometimes a little foundation was made of pine or spruce boughs, the goods laid on this and covered with a tarpaulin bearing the owner's name. But usually they were just piled on the ground or snow and covered. As much as could be carried would be taken five or six miles ahead and cached and then the return trip made for more. As many as ten or a dozen trips were often necessary before a man could get all his supplies moved forward, which practically meant that the pass was climbed that many times. Those who had horses, dogs, or even goats packed their goods on them, but it was as hard on the animals as on the men. Thousands of horses died in what came to be known as Dead Horse Gulch, and choked the trail with their carcasses. In the bogs beyond the summit, other thousands were mired and died. In fact, at times the trails became entirely choked with men, horses and supplies, and it was word of this and of the crimes committed that led many to go by the other routes. In the spring and summer rain would often fall for weeks in torrents, and the trails,

where not rocky would be deep in mud. In the winter there were the blizzards and snow and low temperature, so that there was little choice. But summer and winter the hordes poured on. It is estimated that thirty thousand people and thirty million pounds of supplies crossed these two passes in the days of the rush.

The summit reached, almost as great difficulties loomed ahead. The trail wound along the small lakes and through the bogs of this section until Lake Bennett was reached. Horses, mules, dogs, goats, wheelbarrows, sleds with sails in the winter, everything that human ingenuity could devise to get the stampedeers and their goods thus far was utilized. One woman clad in male attire — breeches, a mackinaw coat and moccasins — drove four goats attached to a sled upon which was the outfit of a laundry she intended starting in Dawson. A bride and groom, altogether ignorant of the kind of honeymoon trip they were starting upon, sent their goods ahead and brought with them only a small valise. They broke through the ice on one of the small lakes, were rescued by the mounted police and she came riding into Bennett dressed in the yellow striped pantaloons and the red jacket of her rescuers.

At Lake Bennett the crowd halted and set to making boats. The sound of wood chopping, the crash of falling trees, the noise of saws filled the air. The place hummed like some great shipyard. Nearly twenty thousand boats were built on the shores of this lake for the water trip to Dawson during the years of the rush.

Few of the boat builders had had any experience in this work and the crafts put together were marvels of construction. They were triangular, oblong, flat, spheroidal, rectangular. They were all sizes, all thicknesses, and many travelled as well sideways as in any other

fashion. They were all built in hot haste by men eager to be off and who apparently had lost all sense of fear, else they never would have set forth in such craft for a voyage of an unknown number of miles on unknown waters. It is said that when the ice broke up on Lake Bennett as many as eight hundred of these boats set sail. They were filled with horses, cows, dogs, oxen, men, women, children, and supplies. They were so close together they almost bumped each other, and forth they sailed, the strangest, weirdest procession of argonauts the world has ever known. Through Lake Bennett, past gusty Windy Arm, into Lake Marsh they went; then into the jaws of Miles Canyon with its frowning walls and waters like a mill race, through the seething, foaming White Horse Rapids, on down through Lake Lebarge and the treacherous Thirtymile River with its rapids, shallows, concealed rocks that often broke a heavy scow into pieces as easily as if it were a clay pipe stem, on into the Lewes and Yukon and finally to their goal, Dawson, where boats ten and twelve deep were fastened to the river bank.

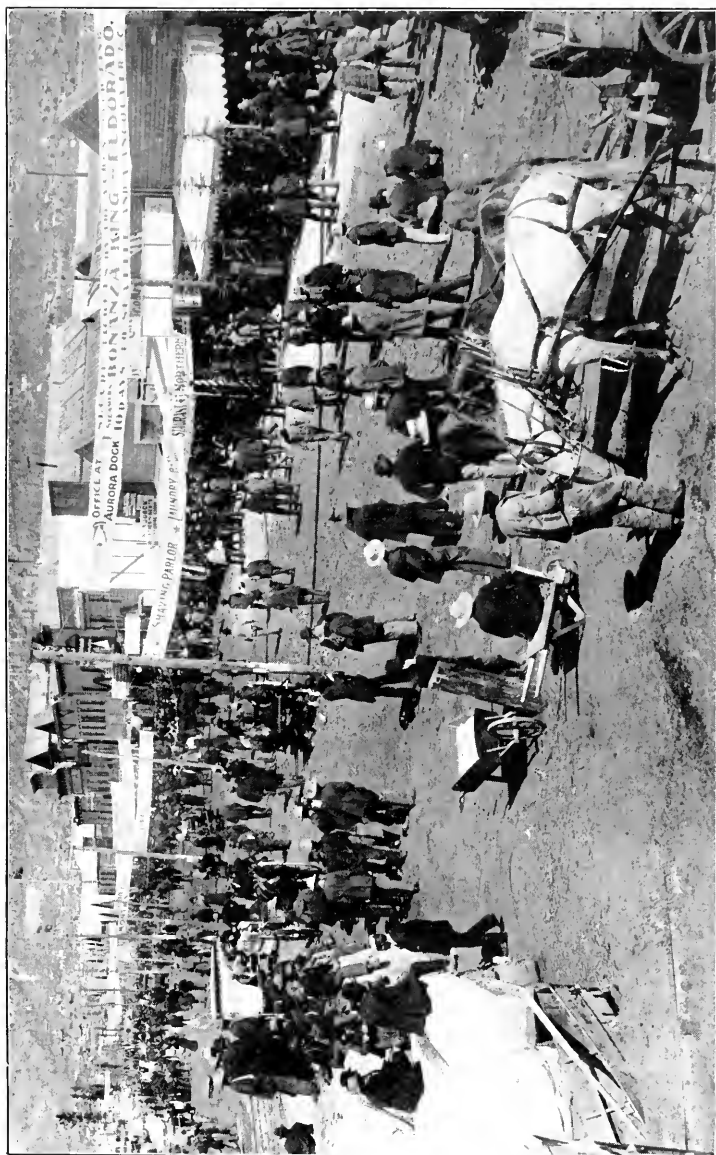
Dawson, which when the first comers arrived was but a frozen swamp, quickly became like Skagway, a seething mass of humanity. A city of sixteen thousand people, named for Dr. George Dawson, Director of the Canadian Geological Survey, sprang rapidly into existence. It was a city of tents, of log houses, of frame buildings. The sound of hammers and saws filled the air, for the building of stores and houses was going on continuously. Many of the houses were extremely crude, for like the boats, they were built by men unaccustomed to house building. Window frames and glass were costly. A sash holding six panes, six inches by six inches, cost twenty-five dollars. Bottles, however, were plentiful, and empty stout

and ale bottles were set in crude handmade window frames and gave a subdued light to the interior. Other uses were also made of these bottles. Table glasses were scarce. But a piece of stout cord or wire was heated, pressed tightly around the centre of the bottle, which was then dipped quickly into cold water, and it broke smoothly into two parts, one making a tumbler, the other a glass funnel. The people were resourceful and quick wits cleverly made up for the lack of material supplies.

The Dawson bank of the early days was a tent with an unplanned board for a counter, and for a safe an old trunk filled with bags of gold dust. Currency was strewn all about and clerks in shirt sleeves attended to business.

Men surged the streets eager to know about the mining on the creeks, anxious to get out and try their fortunes, or keenly studying the business situation in the newborn town and deciding to try their luck in some business venture there. Men made fortunes and men lost every cent they possessed. "For one man who made, there were five hundred went broke," said an old timer telling of these days. "They were ruined financially and they were ruined in other ways. Their spirit was broken and that was the worst of all. I saw a man who had put every cent he had into a lot of cattle. Meat was high and he stood to make a fortune. He was bringing them on a boat through Lake Teslin. A storm came up. If the men with him had kept their heads they would have won out, but they got frightened and steered the boat for the shore. The bank was rocky, the barge was knocked to pieces and all the cattle drowned. The look on that man's face was awful to see. I'll never forget it as long as I live."

"The ground was horribly rich, yes, horribly rich," said another reminiscently. "Sometimes the gold was



A STREET SCENE IN DAWSON IN THE EARLY DAYS

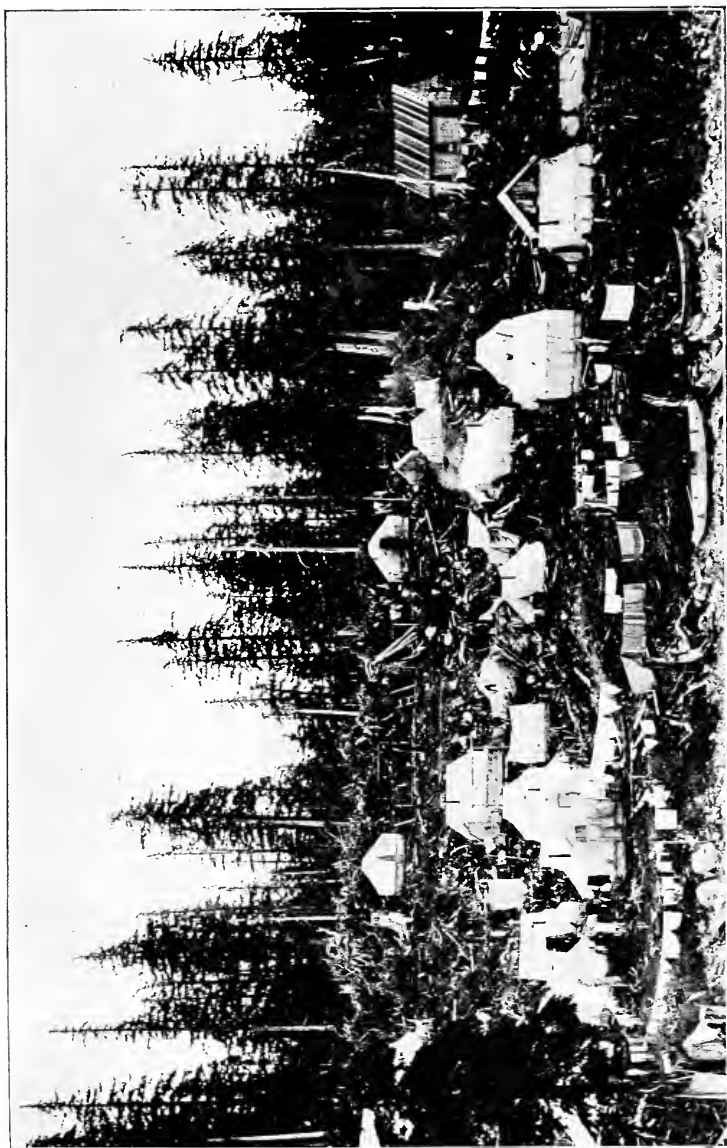
so thick it was on the ground like the grains of wheat you throw out to the chickens. Many got a million dollars from a five hundred foot claim. From twenty-nine claims between fifty and sixty million dollars were taken. None of the men had ever had money like that before and when they got it in such amazing quantities they didn't know what to do with it. It went to their heads. They got plumb crazy. Their ideas of life, when they could live as they pleased, seemed to be to eat, drink, and indulge in all kinds of orgies. It got to be the fashion in the dance halls when an actress who was the rage was on to throw nuggets to her on the stage. Two miners were rivals with one girl, and one night they tried to outdo each other in showering her with gold. Finally one of them took out his entire poke and shouting 'Beat that, if you can,' tossed it to her. He died in the poor-house."

So these stories go. A man who made a million is now working as a lumber jack in one of the camps in the States. It would seem as if almost all of those who quickly made these amazing fortunes, enduring untold hardship to acquire them, lost them just as quickly. Loaded down with bacon, flour, baking powder, coffee, sugar, a shovel, axe, blankets, possibly a Yukon stove, these men would trudge out to the hills through bogs and swamps in summer, or through bitter blizzards and temperatures of sixty and eighty degrees below in winter. They would cook their food on the shovel with which they dug. If they worked a few feet below ground, they had to thaw every inch of earth, and for this they must chop the necessary wood. The atmosphere of Bonanza, Eldorado, Hunker, Gold Run and other creeks was dense with choking smoke. They lived, many of them, in the most sordid surroundings, with unplanned planks for a table,

with stools and bunks made out of logs and rough boards, with bedding unwashed for months, with dishes unwashed for days. Time was too precious for anything but mining. Often, in such cabins, seventy-five thousand dollars' worth of gold would be standing around in tin cans or lying about in bags, or even poured into old rubber boots, when all other receptacles were full. Then the day would come when they would go into town, and in saloons, gambling dens, and dance halls, their gold would trickle away, till, dead broke, they went back again to their sordid cabin, the fight with icy gravel, the life of loneliness and hardship to wrest once more the gleaming metal from the earth.

Much better law and order were maintained in Dawson than in the usual mining camp. The town had its gambling places and dance halls. The Royal Alexandria Hotel of to-day is on the site of one of the most famous of these dance halls, and several others are still to be seen. But there was little theft or murder. The presence of the Mounted Police and the quick justice meted criminals prevented this. If a man lost his money, and countless numbers did, it was because he gambled it away or threw it away on dance hall favorites.

When a man went into a gambling den or saloon, he handed his poke to the man at the door. When he came out, he showed the score of his indebtedness, the amount was taken out of the poke and the remainder handed back. It did not take long to clean a man out by this process. The dance halls girls and attendants likewise had schemes for parting a miner and his poke. Box rushing was one of these. The upper part of the playhouse contained rows of boxes. Between acts, the actresses would rush up to these boxes and induce their occupants to treat. For this the actress was slipped a



A NEW CAMP AFTER A GOLD DISCOVERY

small ticket by the waiter which entitled her to twenty-five per cent of the money paid for the drinks. One night one man paid seven hundred and fifty dollars for cigars, three thousand dollars for drinks, and owed another thousand.

One man who was in Dawson during these days said in explanation of this recklessness, "Men were in some respects like boys. They threw off all restraint. At a dance, two judges made a bet as to which could outdance the other. They would never have thought of doing such a thing elsewhere. But here they were free to do absolutely as they pleased. One danced on one foot while he took off his other shoe. Then he repeated the performance till he was barefooted, and being thus able to dance with less fatigue, won."

Food was high. Sugar was seventy-five dollars a sack, flour one dollar a pound, candles one dollar and a quarter each, eggs eighteen dollars a dozen. One man paid two hundred dollars for a crate of frozen potatoes. "I hadn't tasted a potato for two years," he said with a gleam of the eye as if he were again enjoying those frozen tubers. "I tell you, they tasted good."

If funds ran low and money could not be borrowed, clever wits usually devised some way to get a start. During the Spanish-American war no papers had been received for several weeks. One man happened to get one by first-class mail. He read to the crowd about the post office a few choice items and then announced he would read the rest from a hall nearby at one dollar each for admission. Five hundred men crowded in.

The lines at the post office when mail came in became famous. They would stretch for blocks and continue for days, and many a man in a hurry paid twenty dollars for a place near the window.

But life had its comedies as well as its tragedies and toil. The ownership of one of the claims on the rich Bonanza Creek had lapsed and two men re-staked it simultaneously; the one, however, who filed first would get it. Their stakes driven, they started pell mell for Fortymile, the recording place some sixty or so miles away. Down Bonanza Creek they fled on foot until Dawson was reached. Here friends of each who knew the effort being made had dog teams ready and away each flew. The office of Fortymile closed at four o'clock and each was eager to reach it before this hour, for there was no conjecturing what might happen before it opened next morning. Passing and re-passing, jockeying for the best road, on they whirled. When within two or three miles of the office, the dogs of one began to flag. No urging or whipping could speed them up. Seeing the other about to pass, out leaped their driver and started on a run for the goal. He soon outdistanced the dogs of the other team now beginning to be spent. Not to be beaten, the driver of these leaped out and began to run. Neck and neck they reached Fortymile, spent and panting for breath. One of the men not being familiar with the town and seeing a large building made for it. The other who knew the Recording Office turned, reached the door, opened it, and fell exhausted on the threshold, but managed to shout, "Sixty above on Bonanza." The other, who had realized his mistake when his opponent turned, had followed, was close on his heels, and drowned his rival's voice with his shout, "Sixty above on Bonanza."

The recorder decided the race was a tie and advised them to divide the claim, which they finally did. When they came to work it, it was worthless.

Another miner known as Charlie the Finn had located

a claim on Ready Bullion Creek but had not yet recorded it. He boasted, however, long and loud about its value and what he expected to do with the millions he would get out of it. Some of the other miners became tired of hearing these tales and decided to have a little fun with Charlie. When only a few days remained of the time allowed him for recording, two strangers appeared in the saloon where Charlie as usual was holding forth in regard to his future gains. After a drink or so the bartender asked the men the usual queries as to how they were doing. In secretive tones, but quite loud enough for Charlie to hear, they told of having just come in from Ready Bullion where they had struck something that would make Bonanza look like a two-cent piece. As Charlie heard snatches of their talk, and recalled how his own claim on this creek was not recorded, he soon lost all interest in the tale he was telling. He strained his ears to catch more of their talk. Others crowded about them and finally one of the newcomers asked, "Who owns Claim Six? I have tried to get some of the claims but can't. I'm told this isn't filed. If it isn't, I am going right out to stake and file."

This was too much for Charlie, for this was his claim. He ran from the saloon, rushed to his cabin, seized some cold pancakes, all that was left from his last meal, and started on a run for Fortymile. A miner coming in to Dawson a few hours later said he had met a crazy man running as if for life, with some frozen pancakes in one hand and his cap in the other, and that all he could get out of him as he rushed past was, "Number Six, Ready Bullion. Struck it rich."

It is said that whenever Charlie was asked about the affair afterward the language he used made the questioner wish he had not brought up the subject.

A tale is told of two men who were earnestly solicited by a clergyman to attend a church service. Finally they consented. The service was conducted with all the ceremonies of the Church of England, carried out as well as it could be in those times and circumstances. The two old prospectors had not been to church since they were boys and they intently watched the proceedings, looking with much amazement at the choir boys, the incense, and the other parts of the service. Finally one turned to the other and said, "This is the ——— queerest thing I ever saw. Look at that bunch with white parkas on burning a smudge in the middle of winter."

The Christmas of '96 when the news of Carmack's discovery had brought miners from all near-by creeks, though the great rush had not yet set in, was uniquely celebrated. There were a few women in the town and they determined to properly honor the season. There was no log cabin or house large enough to accommodate the crowd, so the women appealed to a saloon keeper for the use of his place of business. Though it meant the loss to him of his richest season, he cordially consented and offered to put blankets in front of the bar to make the place look better. He stopped all gambling and gave his establishment over to the women entirely.

The women then went to work to get contributions for the expenses, and in a temperature of fifty below trudged about soliciting gold dust, articles for decoration, and whatever would help to the success of the affair. Miners' bags, trunks, and knapsacks were ransacked for decorative articles, and out came pictures of the queen, of the president, of the pope, of prize fighters, and of ballet girls. One man had a flag, and another who could draw scoured Dawson for wrapping paper and made appropriate Christmas sketches to lend an air of gayety.

When Christmas Eve arrived from far and near the crowd came. Miners trudged through the snow and cold ten and twenty miles. It was a black night with a blizzard blowing, but they came — men absolutely illiterate, men who had graduated from Oxford, lawyers, doctors, men of many professions and of none, men who had lived in the wilds for years and had not known a Christmas celebration since they were young. Many were unshaven. Many had hair falling to their shoulders. Clothing of every kind was worn.

A selection was read from the Bible, a short address was made, and then old, familiar hymns were sung. At the conclusion of each, cheers shook the roof, stout boots stamped the floor, big fists pounded the benches, and voices cried, "Hit 'em again!" "That's bully!" "Keep her up!"

The next day the Christmas dinner was spread. Boards were laid across barrels, the diners sat on boxes, kegs and benches. There was no table cloth, but sprigs of pine trees gave a bright, cheery note to the board. The miners had brought their own cups, plates, spoons, knives and forks. The women who had arranged the affair and their husbands were the waiters.

Baked beans, stewed codfish, baked salmon, stewed prunes, tarts made of dried apples and condensed milk, composed the menu, not much like a Christmas dinner but ambrosia to the diners because of the surroundings and the spirit of the affair. Cigars and pipes followed, and then some one suggested that contributions be taken for a hospital, for there had been much scurvy and typhoid, and in ten minutes more than ten thousand dollars were raised.

An old sailor had brought a battered violin, and he squeaked out familiar tunes, and everybody sang. Two

Frenchmen sang the "Marseillaise." Then some one started the "Star Spangled Banner" and though few knew the words, everybody hummed the tune. Then came "God Save the Queen." Stories and speeches followed until the candles sputtered in their homemade sockets and good nights had to be said.

The creeks around Dawson have yielded more than two hundred million dollars in gold and the output still continues. The work was hard. The ground had to be thawed, a slow, tedious process. If the windlass and bucket method was used, one man worked below with pick and shovel, another drew the bucket up. If a man was working the claim himself, he had to perform both operations, climbing out of the shaft every time a bucket was ready to be drawn up. One man from St. Louis, who had a mortgage on his home, was long remembered as one of the tireless workers.

The names given the creeks are stories in themselves. These names are still retained, and as one hears them the panorama of those old days unrolls before one. Sourdough, King Solomon, Monte Cristo, American, Cheechako, Skookum, Gold Hill, Irish, French, Bonanza, so the list runs. Through them one glimpses the nationality or the temperament of those who for several years centred the eyes of the world on these hills and valleys lying in the shadow of the Arctic.

CHAPTER X

DAWSON TO FAIRBANKS

FAMOUS FORTY MILE. INTO AMERICAN TERRITORY. EAGLE AND
CIRCLE CITY. THE MIDNIGHT SUN. FORT YUKON AND ITS
INTERESTING HISTORY. FARMING ON THE ARCTIC CIRCLE.
THE RAMPARTS OF THE YUKON. TANANA, CITY AND RIVER.
NENANA. FAIRBANKS.

As the steamer glides gently from its dock at Dawson a beautiful scene lies ahead. The lower end of the town where are the neat buildings of St. Mary's Hospital ends in a rocky point running out into the river and from this a sheer mountain rises majestically. The channel narrows, and ahead, the shining stream seems to run directly into a bowl or craterlike cup in the hills. But the river deftly turns, glides swiftly between these high mountain walls and swings out into broader spaces.

This part of the river also makes its contribution to Yukon history. At Fortymile, so called because it was forty miles from Fort Reliance, the trading post near the present site of Dawson, gold was discovered as early as 1886. Indeed, the Fortymilers stand out in Yukon history almost as do the Forty-niners in Californian annals. Fortymile is the oldest gold camp in the North. Many of the problems of mining in the Arctic were worked out here by the early comers, for these first miners had to overcome frozen gravels and many other difficulties of mining not encountered elsewhere, and their experiences and the methods evolved were of value to those who came later.

The Fortymile River, on which the miners worked and at whose mouth the trading post was established and a little settlement came into being, is a picturesque stream full of twists and curves. In some places it has been called the Kink because of its windings. The stream is an unfailing source even yet of grubstakes for miners. For miles the bars of the river still yield a harvest and hither come miners who are "broke" to rock out enough for a fresh start. The winter is usually the harvest season for these workers and by spring they have cleaned up enough to buy an outfit for a trip over the hills into new country.

The river is very shallow over the bars and freezes to the bottom. The ice is removed, the gravel is thawed and then rocked out in the tent, the water for the purpose being heated on the camper's Yukon stove. In the early days, before the river had been so thoroughly worked as it is at present, from five to one hundred dollars a day was washed out. Game, fish and wild berries were plentiful and it was a good camp.

Curious things have happened in this camp. One claim that paid its owner richly was known as the "Graveyard." The first man to die on the creek was buried in this piece of ground because it was thought to be utterly worthless. But paystreak was struck, the body moved, and the owner of the ground became wealthy. The history of gold mining in the North is full of such accidental discoveries.

On some of the small creeks emptying into Fortymile River coal has been found. The coal and gold are sometimes mixed. One miner states that some of his richest "pans" were accompanied by coal and that gold has often been picked out of coal seams. Coal is sorted out of the tailings in summer to sharpen the miners' picks and also

to be used as fuel under boilers. In some places the underground coal at times burns and the ground gets so hot even in winter as to burn the feet. One miner had his moccasins destroyed in this way. On some creeks in the district magnetic iron ore has also been discovered.

At one time a mission flourished at Fortymile under the care of Bishop Bompas, who was a son of Sergeant Bompas of the English bar from whom Charles Dickens drew his character of Buzfuz counsel for the plaintiff in the famous suit of *Bardell vs. Pickwick*. For nearly a half century Bishop Bompas labored as a missionary among the Indians of the Yukon and Mackenzie Rivers.

Fortymile is little now but a roadhouse, store, barracks, customs house and a few other buildings.

Beyond this point the international boundary is soon reached and American territory is entered. To many, all this section is Alaska, for as William Ogilvie, director of the government surveying staff and later governor or commissioner of the Yukon, says in his book, "Early Days on the Yukon," "The United States Territory of Alaska and the Yukon Territory of Canada are so intimately associated in the public mind that few except scholars or students think of them as separate." In Dawson, unless some act specially connected with Canadian regulations such as posting a letter brings the thought to mind, one rarely is conscious that he is in British territory.

Eagle is an attractive little town even though there are but few buildings. The custom house, court house, stores, church, and a scattering of houses comprise the settlement. More of these are painted than is usually the case in these settlements, which, perhaps, helps to make the pleasing impression. The town is located in a rather flat, tree-covered stretch with snow mountains

showing in the distance. Fort Egbert near by was, at one time, maintained by the government but it has been abandoned. It was located on the site of an old trading post founded by a French Canadian and called Belle Isle.

The first United States district court was established at Eagle but later it was removed to Fairbanks. When the court was still here, the fort occupied, and miners pouring in by way of the Yukon the future of Eagle looked exceedingly bright, and when the initial surveys were made by the government for roads and trails, one was mapped out from Valdez on the Pacific through the interior to Eagle. But it was never completed. The gold strike came at Fairbanks and interest was diverted to the interior.

Making a landing at many of these little towns is often an interesting and curious proceeding. The steamer apparently heads up stream, though it has been going down, and then drifts down backward and swings into the river bank, which is the only landing. The performance seems clumsy and helpless, but the captain knows what he is about, and the passengers watch with keen interest this seemingly blundering but nevertheless sure landing. There are no docks or piers. There is just the river bank several feet, sometimes several yards, high. The boat runs in very close, sometimes almost scraping it. The gang plank is thrown from the boat to the bluff, often if there is but little to go ashore, a newspaper perhaps and two or three small packages, these are tossed to those on the bank and the steamer goes on its way.

Another novel feature of this river trip is taking on wood, or "wooding up," as it is called. Most of the steamers burn wood, and along the river at certain points are great stacks of wood neatly piled. The steamer glides up to the bank, a gang plank is thrown ashore and



“WOODING UP”

the wood wheeled on in hand trucks and barrows. While this is being done the passengers go ashore and pick wild berries and flowers. Some of the little grassy meadows at these points are thick with wild roses, bluebells, and dozens of other lovely blossoms. From fifteen to twenty-five cords are taken on at a landing. It is a low grade brittle spruce wood with, in some places, a little hemlock. In winter, when the frost is in it, one crack of the axe will split a spruce log open. The boats between Dawson and Fairbanks burn on an average one cord an hour. The larger boats burn two cords.

From Eagle on, the river scenery for many miles has a grandeur and beauty that is unique. The banks of the river rise in sheer walls, their tops level as a board, their fronts eroded into a succession of rounded bluffs with deep canyons and gorges between filled with spruce and hemlock. Far away in the background can be seen ranges of snow mountains. This formation runs for miles and gives a peculiarly weird, impressive beauty to the landscape. In some places the rounded bluffs grow more jagged and rise into a succession of rugged peaks. The river is narrow, swift and mud colored. Not a sign of human habitation is to be seen. For countless miles is only the primeval wilderness, and one seems to be gliding swiftly through a new and strange world.

Just below Eagle the rock strata of one of the bluffs has the appearance of a piece of dress goods and the bank here has been called Calico Bluff.

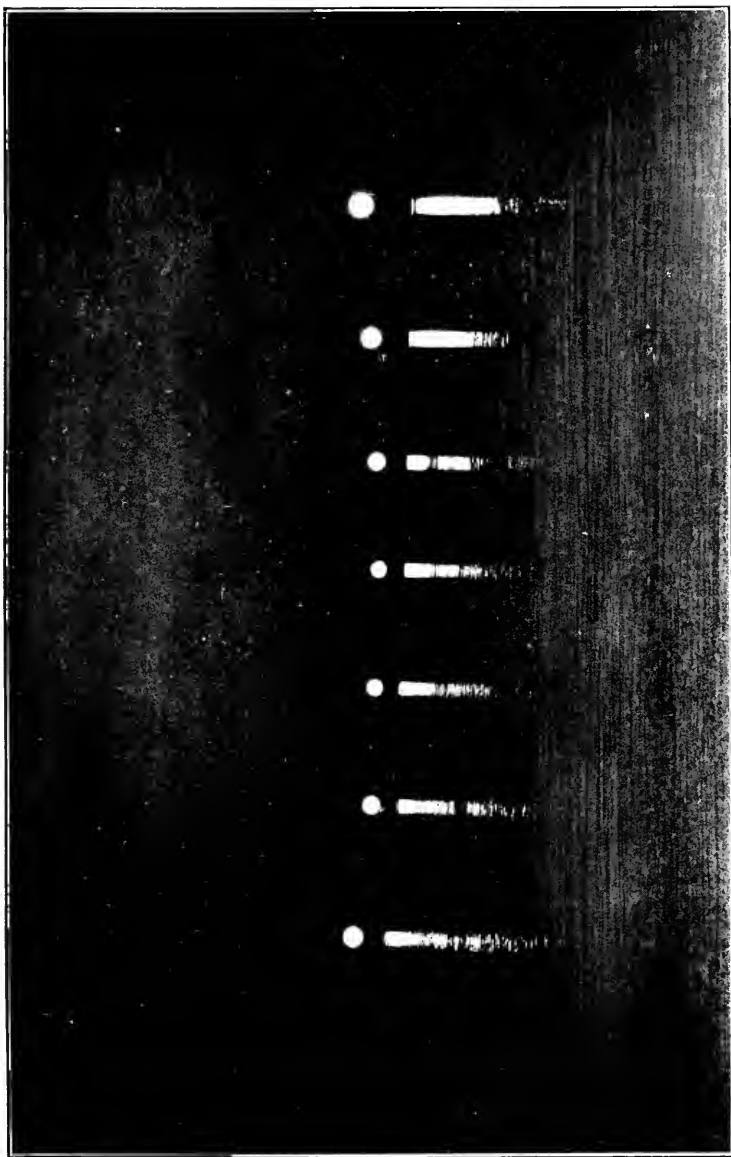
Circle is the next settlement. In 1896 it proclaimed itself to be the largest log cabin town in the world, but to-day it has little to boast of either in population or area. On the river bank awaiting the boat were a handful of white people, among them a few boys in khaki and an Indian with a pappoose on her back. The log build-

ings of the Northern Commercial Company, the N. C. as it is colloquially called, and a few other stores and log houses constitute the town. The melancholy howling of malemute dogs filled the air.

The Northern Commercial Company, whose buildings are seen in almost all towns in Alaska, is the outgrowth of some of the old trading companies of this region. When Alaska was purchased from Russia by the United States the Russian Company's trading posts were acquired by a San Francisco firm. A few years later an independent company was incorporated which established posts along the Yukon River and engaged Harper, McQuesten and Mayo as their agents. In a few years this company bought out the San Francisco firm, later merged with another company doing business here and became known as the Northern Commercial Company. To-day their big warehouses are dotted all through Alaska and it is the largest and most successful trading company in the North.

Circle is the outgrowth of a trading post established by McQuesten when gold was discovered in this vicinity. The town was supposed to be on the Arctic Circle but this latitude is not yet reached for some eighty miles. But almost anywhere hereabouts the phenomenon of the midnight sun can be seen and hither come the "Sunners" for their view of it.

It is worth the trip, for it is a sight never to be forgotten; another of the strange, beautiful and unusual experiences Alaska has in store for those who come to her. Slowly, in a sky of gold the sun sinks almost to the horizon. The water is a great shining pathway of gold and in this glory two small islands are darkly silhouetted. Down, down, almost to the water's edge drops the great globe, hesitates there a few moments as if



THE MIDNIGHT SUN
SEVEN EXPOSURES, AT INTERVALS OF FIFTEEN MINUTES

undecided whether to go to bed or to go to work again, and then, having made up his mind, slowly moves in seemingly almost a straight line along the horizon for a brief space and then slowly begins to rise. Sometimes the colors are different. There may be a glory of rose and purple, for nature has such an unlimited palette of colors she rarely needs to use the same hue twice. But however she paints the sky and water, the work will always be exquisite in tinting, and the sight of the great globe of light sinking in this glory of color and then slowly rising again to resume its duties is so weird, so strange, that one again wonders if he is on the familiar earth or transported to some other sphere.

At Circle the Yukon Flats begin and the river loses its picturesque banks. It widens till it seems like a great inland sea with islands here and there green with spruce, with channels everywhere. It is a maze of waterways bewildering to the eye, with logs and tree trunks and roots floating in it like the wreckage of some destructive flood. The shores become in places mere dim lines on the horizon for the river at times is ten miles or so wide. These flats extend for some two hundred miles, and navigation on this part of the river is extremely difficult owing to the constant changes in the channel by reason of new bars forming, banks eroding, islands appearing and disappearing.

Fort Yukon, the next stopping place, is on the Arctic Circle, which may be the cause of its being a trifle more pretentious than the other settlements, though this is more likely due to the fact that Fort Yukon is the oldest English speaking settlement on the upper river. It was established in 1846 by Alexander Murray, a factor of the Hudson Bay Company. While Campbell was coming down the Pelly and making his plans for Fort Sel-

kirk, Murray crossed the Arctic plain to the Porcupine, came down this river, which empties into the Yukon here, and founded a trading post at the junction a year or so before Campbell completed Fort Selkirk. It was said to be the best built trading post in these northern wilds, to have had glazed windows, plastered walls, and to have been unusually attractive and comfortable for the wilderness. But one is inclined to be a bit skeptical as to the glazed windows, unless the traders evolved some method of making them on the spot. Window glass some fifty years later at Dawson was a luxury. To get it to Fort Yukon would mean an overland trip from Montreal. Perhaps the windows were evolved from bottles, as many were in Dawson.

However, it was an important post and, when Fort Selkirk was burned, became the chief Hudson Bay post on the river. Here, in 1862, came Archdeacon McDonald, of the Church of England, for missionary work among the natives. He studied the Indian language, extracted its grammar, and translated the Bible, Book of Common Prayer, and some of the hymns into the native tongue. He also taught the Indians to read and write in their native language. He labored faithfully among them for many years. It is thus one of the oldest missionary stations with the exception of those of the Russians on the lower river, on the Yukon, and it is to-day the site of a flourishing mission of the Protestant Episcopal church.

A roadhouse, a wireless station, log houses, frame buildings and the hospital of the mission make an attractive settlement. The log hospital is quite the most impressive looking building. It has many windows, dainty white curtains and a glimpse of flowers within. It seems perilously near the bank considering how many

places have been washed away and that some of the houses connected with the mission station here have already gone into the waters of the Yukon. Upon his return from his latest trip to the Arctic, Stefansson was taken care of here while recuperating.

One of nature's totem poles, a tree with excrescences resembling the human face, has been set up in a yard. A little carving has helped along the likeness to human features and to still further carry this out a cigar has been stuck in the mouth.

Near the settlement is the Old Hudson Bay cemetery in which are the oldest known graves of white people on the Yukon.

When the United States purchased Alaska from Russia this Hudson Bay post had to move. There was then so little accurate knowledge as to where the boundary between the British and American possessions really was that the post had to move twice before it finally reached British territory, and the last location seemed a matter of luck more than knowledge for it chanced to be over the line but a few miles.

The country around Fort Yukon is flat with willows and poplars and a few spruce for greenery.

An up river boat is passed here and mail handed to it for a quicker trip outside than the down boat gives. Acquaintances exchange the popular greeting in Alaska, "Are you going out?" or "Are you in for some time?" for "inside" and "outside" are the two terms in Alaska to designate life in the Territory and life in the States. "It sounds like jail," one passenger laughingly remarked, as he heard some one ask, "How long are you in for?" and another, "When do you get out?"

The breaking up of the ice in the spring which sweeps away the river banks and the houses, a sample of whose

destructive power is seen at Fort Yukon in the carrying away of one of the mission buildings, is a sight quite as well worth seeing as the midnight sun, if the season were as favorable. The ice in all sorts of fantastic shapes, "like houses on end," one describes it, moves in stately fashion down stream. Sometimes the whole body stops perfectly still and lies in the river without motion. Then the wind springs up and it begins to move. Around rocky points it sweeps, the rock splintering the ice into fine spray like salt that rises geyserlike in a snowy column sometimes thirty feet high.

At all the towns along the river the people gather to see the sight. It is not only a majestic spectacle but it is an event of importance for it means the opening of spring and summer business. Each year in these towns, bets are freely made as to the date when the ice will go out, and sometimes pools are formed running into thousands of dollars. In Dawson the event is timed by aid of a wire cable fastened to a prominent pedestal set on the ice midway between the shores. The wire is attached to an electric stop-clock ashore.

Some eighty miles beyond Fort Yukon is Beaver where a sign reads, "Government road to Caro, Coldfoot and Bettles," and one has a mental picture of a trail winding over vast, lonely stretches of mountain and woods and tundra into the great Arctic wilderness.

Rampart, the next stop, has more than usual interest. In appearance it is much like other settlements being but a little group of log houses, but in one of these cabins lived Rex Beach, the writer of Alaskan stories, and across the river can be seen the neatly painted buildings of the government agricultural experiment stations, the fields green with crops, the whole place looking much like a prosperous little farm in New Jersey or the Middle West.

The hills slope up rather noticeably back of Rampart and through them runs a trail to Hot Springs near Fairbanks. The distance by this trail is about seventy miles, whereas by the river it is several hundred.

At one of the stops along here a woman missionary came on board who had travelled five hundred miles in a row boat to get a steamer for the outside. Her experience is somewhat akin to that of one of the drafted men during the war. He was told to take the nearest train and report at once. The nearest train happened to be twelve hundred miles distant. He travelled by dog team, canoe, launch and steamer to reach it and was several months on the way. Alaska is a country of distances, a fact some people do not realize. The trip down the Yukon from its navigable headwaters to its mouth is more than two thousand miles.

The Yukon Ramparts begin here, and after the Flats it is pleasant to see green hills and bluffs again. The shores are clothed with spruce, poplar and willow. In some places the bluffs are steep and shaped by wind and water into bastionlike effects that give much the appearance of a staunchly built fort. The walls are sculptured with all sorts of weird traceries suggestive of Egyptian heads and hieroglyphics. Again the banks rise into mighty bluffs that seem to close the river in and make a landlocked harbor ahead. But always the swift current has worked a way through and swings around a sharp curve into a gleaming waterway ahead.

The first indication of Tanana, the most important town on this part of the river, is the little Indian village and mission with its church and homes and gardens, all very neat and attractive, and a little graveyard amidst the trees and grasses. Then the town itself comes into view, consisting mostly of one street running along the

river with a few houses scattered back from the water among the grasses and wild flowers and trees, and at the far end of the town, on the river bank, the cheerful yellow buildings of Fort Gibbon.

The impression the town gives is pleasing. Flowers are indoors and out. One home boasted a tiny hothouse; another, of logs, had a bird house at the peak. Some of the log houses have green corrugated iron roofs very pretty in effect and at a distance looking like soft green moss. A town bulletin board announced essential news, and the jail was such an extremely comfortable-looking place that one felt were a stay in the town necessary it would be well to commit some misdemeanor that one might be lodged and fed here. A horse was grazing in a lot filled to overflowing with the pinkest of wild roses and the bluest of Scotch bluebells while a marvellous blue sky arched overhead, spruce framed in the background and the great swift river rolled in front. One could but wonder if he appreciated the beauty of his dining-room.

Fort Gibbon, at the lower end of the town, is most attractively situated with the broad Yukon in front and distant mountains filling the horizon behind. It is a pleasant place of cheery yellow buildings with red roofs, a spacious parade ground, a telegraph office and post exchange, a moving picture theatre to which the towns-folks are admitted upon payment of twenty-five cents, and the usual commissary and store houses.

Tanana, or rather its site, was in the early days a great trading point for natives from up the Tanana River, from the Koyukuk, and from the upper and lower Yukon. It had an unspellable and unpronounceable Indian name meaning "between the rivers," which is probably why "Tanana" has been substituted for it. Later, when the Russians established their posts on the lower river and

the Hudson Bay Company on the upper, the traders of these two companies joined the gatherings of the Indians. Down the river in large, flat-bottomed boats loaded with guns, blankets, powder, tea, tobacco and such articles came the Hudson Bay men, and up the river with their goods came the Russian agents. It was at these meetings that the discovery was made that the Yukon of the Hudson Bay people and the Kwikpak of the Russians were one stream.

At Tanana the Yukon River is left by those who go to Fairbanks and the steamer turns up the Tanana River, another of the large, important rivers of the Territory. The name means, "River of mountains." It is some five hundred miles long and drains a section not only rich in minerals but with great agricultural possibilities. When the Territory comes into its full development this river will become one of its great business arteries, for down it will come agricultural products for settlements both up and down the Yukon and also merchandise shipped in over the government railroad from the seaboard.

A very gentle landscape greets the traveller as the boat turns in, a scene of broad waters, low shores green with willow and poplar, low flat tree-covered islands, and far off on the horizon a faint line of blue mountains.

Sometimes the mountains come closer but they are gentle slopes covered with trees. Again the shores spread out into flats green with grass with here and there pools throwing back the reflections of the grasses and wild flowers on their banks. Then will come stretches of dense spruce forests. The steamer, at times, runs close to the shore and one can look far into the depths of these woods with their dark shadows lighted here and there with flickering shafts of sunlight. At times islands dot the water, or the shore line runs out into sharp points

and far away mountains are glimpsed. At some points, on clear days, Mt. McKinley can be seen.

The current is swift, the earth of the banks soft, and it melts in the water like sugar in coffee. Earth and trees and grass and flowers are constantly falling in and all along where the banks have been undermined, they overhang the water forming earth caves below. Whether the scene strikes one as a picture of loneliness and desolation or as a glimpse of the primeval it must be admitted to be unique.

A stop is made at Tolovana, a settlement consisting of a store and a few log houses. It is a point of shipment to mines in the interior, by means of a boat which runs some eighty miles up the Tolovana River to Log Jam.

Nenana is next reached, a town that leaped into prominence with the coming of the government railroad from Seward and Anchorage. Previous to the advent of the railroad Nenana consisted, according to report, of Jimmy Duke and St. Mark's Mission. But these are entirely overshadowed now by the neat, green and white buildings of the government, bright new stores, and, most important of all, the railroad cars with the big letters, "U. S." in white paint on their green sides, tangible evidence of government ownership of the railroads that gives a thrill to those who have longed to see it.

Substantial looking warehouses stretch along the water front. The mess house, storehouses, hospital and cottages of the Alaska Engineering Commission, all painted dark green and white, come next, and then the streets and stores of the town, broad streets, bright shining new shops and hotels and restaurants and laundries and homes. For the Nenana of to-day is a new town but a few years old with the forest crowding close upon its outskirts and everything shining with the lustre of newness.

The absence of the usual numerous Alaskan dog is noticeable and it is discovered that he is not allowed within a mile of the town. One sees him in the Indian village near by but tied and disconsolate and reproachful.

Beyond Nenana is Chena, which expected to be the metropolis of interior Alaska instead of Fairbanks and by reason of its location felt it should be. It is on the river, and was the terminus of the Tanana Valley Railroad, a small railroad running from Fairbanks to various mining camps round about and now a part of the government road. When the government road became an assured fact and Chena felt its development certain, it elevated the prices of its real estate and beamingly awaited its gold mines in the boom that was to come. But it over-reached itself. The prices asked were beyond reason and opportunity indignantly marched by and up the slough to Fairbanks, the Golden Heart of Alaska, as it is called.

So the boat likewise passes by Chena with a stop of perhaps a few minutes and steams on up the slough to Alaska's chief interior city.

The course up the slough is devious. A small child voiced the sentiment of many among the passengers when she exclaimed, "It's the most windable river I ever saw." Willows and alders clothe the low banks. A dog ranch is occasionally seen, a rather unattractive looking place, where dogs are boarded during their summer idleness. Then Fairbanks comes into view, the tall wireless station, the green fields of its government experimental farm, showing first, and then, as the town is neared, the boats along its busy water front, the iron bridge that spans the slough, the hotels and stores appearing, all arousing keen expectations as to what this city in the heart of this vast country is like.

CHAPTER XI

FAIRBANKS, THE GOLDEN HEART OF ALASKA

THE DISCOVERY OF GOLD THAT CREATED FAIRBANKS. EARLY DAYS.
THE MODERN CITY OF TO-DAY. NEAR-BY FARMS AND THEIR
PROSPERITY. FAIRBANKS' BRIGHT FUTURE. A TRIP TO THE
CREEKS.

FAIRBANKS, like many Alaskan cities, is the result of the discovery of gold. But it has no spectacular history like Dawson or Nome. True, it had its rush, but it never held the attention of the world as dramatically as did these other two.

In 1901, Fairbanks was a small trading station consisting, like most of these, of a few log houses and stores. Here, prospectors making their way from the coast, or up the river from the Yukon, or over the mountains to Dawson, stopped for supplies. Then Felix Pedro found gold on a near-by creek. It is an odd coincidence that several seasons before, when going through this section with a few comrades on their way to Circle, Pedro found gold. But the party was in an almost starved condition, there was no trading post then, and haste had to be made. So the gold was abandoned. In fact Pedro did not even take sufficient note of it to remember the exact location. Other miners, hearing of his discovery, tried to locate the rimrock he had sighted but were not successful. It was not until 1902 when he returned, brought possibly by the memory of his former discovery, and again found gold, that the rush in this district started. Whether this paystreak was the same as his original discovery neither he nor any one else knew.

Two fairly well-stocked trading posts were near now owing to the building of the government military lines through this section, and Pedro this time did not suffer. He was able to work his claim and did so well with it that the news soon spread and men came from Valdez, Nome, Dawson and from up and down the Yukon. They camped on the river bank, they lived in tents, they lived in the open. Houses and buildings went up as rapidly as possible. The place was the usual mining camp scene of bustle and confusion, of high prices for a time, of gambling dens and dance halls. Sandwiches cost a dollar each. Yukon stoves, "just a piece of tin bent into shape," said a woman describing these early days, "and with a little arrangement for a draft," brought forty-five dollars. Baking powder biscuits were two dollars a dozen. But these prices only controlled for a short time. There was not the reckless throwing away of money as at Dawson. Although the district is rich and has yielded a tremendous amount of gold, more than sixty-six millions having been mined here in thirteen years, the individual fortunes have not been so great as at Dawson. The men made less, saved it, and often, when a considerable sum had been secured, went back to the States to enjoy it. In fact the gamblers who had come expecting to reap the usual harvest went out disappointed and spread some of the hard luck tales that made the camp at one time seem to be a failure.

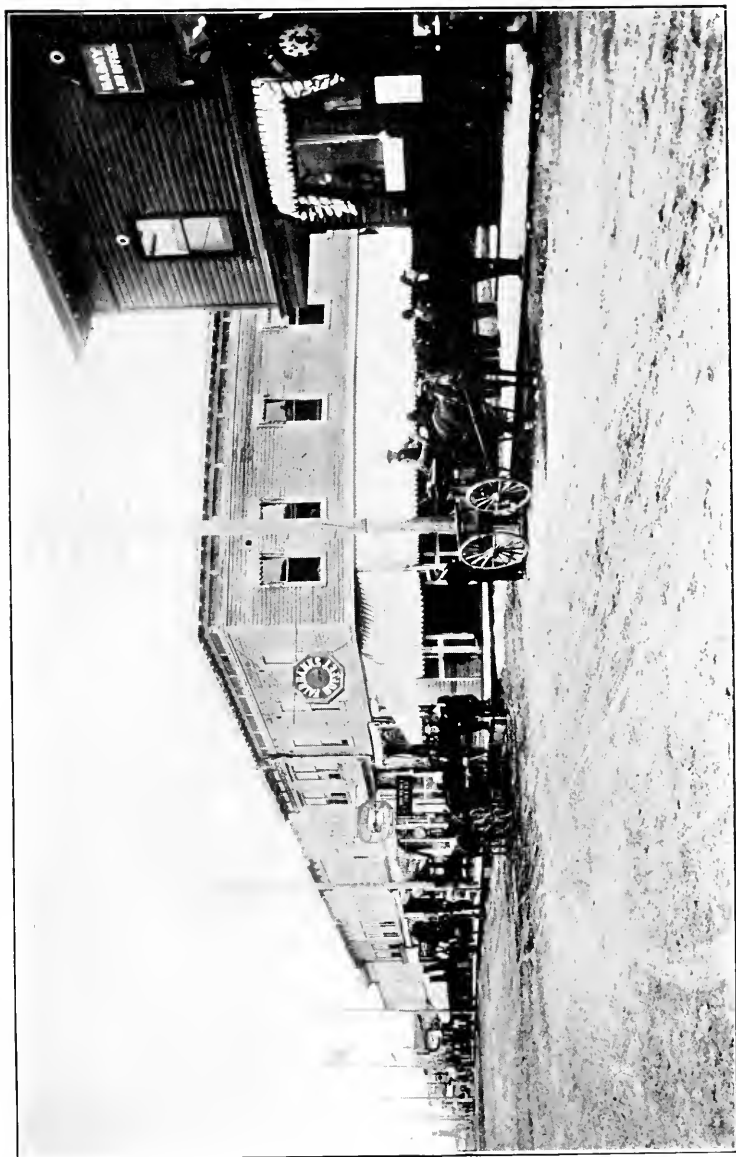
The town was incorporated in 1903 and a government by mayor and city council established. In 1904 the federal offices were removed from Eagle and a federal judge came. In 1907 the city government stepped in and closed the dance halls and gambling places and confiscated the gambling outfits.

The city to-day is far from having the appearance of

a mining camp. It is a busy, bustling town with many banks, hotels, stores, restaurants, laundries and all that goes to make a prosperous business community. It has electric lights, telephones, telegraph, a jitney service to the near-by creeks and mining towns and a service of several small boats and launches up and down the Tanana River. A government bureau of mines is located here with a well-equipped laboratory. The government also has an experimental farm within a few miles of the town where vegetables, fruits and grains suitable for raising in Alaska are tested out. On this farm, ground has been broken for the Alaska Agricultural College and School of Mines and the buildings are in course of erection. The town has also many churches, a public library and a good school.

This school has a corps of eight teachers and comprises all grades from the fifth to the high school including manual training and domestic science. There are physical and chemical laboratories with the necessary apparatus and it is no easy matter to equip these laboratories when it is remembered that the base of supplies is more than a thousand miles away, that goods are sometimes on the road six months and more and that when they finally do arrive some essential part is quite likely to be missing and ingenuity must be taxed to supply it. No large shipments can be brought in during the winter as all supplies must come overland by sled, and no matter how important a part of some laboratory apparatus may be lacking, it cannot be secured until spring or rather summer arrives and the river is open. The supplies for the entire year for the whole community must also be brought in during these summer months and stored.

The school-house is a large, modern building with a fine outdoor playground equipped with swings, seesaws,



FAIRBANKS

toboggans, rings and other apparatus for healthy sport. The children enjoy these even in the winter. The temperature has to be extremely low to keep them from their outdoor play. The Fairbanks youngsters do not mind cold weather. Many little tots walk a mile and more to come to school with the temperature forty and fifty degrees below. Of the high school graduates, seventy-five per cent go on to college or university courses in the States.

The site upon which Fairbanks is built is quite level and there are no mountains to stop its expansion and so street after street stretches from the business section to outlying suburbs upon which are beautiful homes. They are simple and unpretentious in architecture, consisting mostly of bungalows, sometimes of log cabins. But they are artistic in design, and, as a rule, surrounded with a wealth of flowers. Almost all have thrifty gardens and many have hothouses.

In the outskirts of the town is a large park where the citizens enjoy many forms of recreation and where on the Fourth of July and other holidays automobile races are run and other sports indulged in. One of the usual Fourth of July events is a baseball game begun here at midnight.

The town has many fraternal organizations, a tennis club, a rifle club, for there is good hunting in the vicinity, and other athletic organizations. It has also a woman's club that is a member of the Federation of Women's Clubs. This club maintains a children's playground at the park with a trained person in charge and the children are taught games, and their play is otherwise properly supervised.

This club has done much good work for the town, one of its efforts being the establishment of the curfew law

by which the children must be in their homes by nine o'clock in the winter and ten in the summer. One would think the youngsters themselves would be ready for bed by ten o'clock. But it must be remembered that in the summer it is bright daylight at this hour and the children had been in the habit, until the curfew took them in hand, of going off in the woods and picking berries until midnight.

The gardens and hothouses in Fairbanks are well worth a study by those who think that Alaska is an uninhabitable and unproductive region. A home without a thrifty garden in which are growing potatoes, peas, cabbage, carrots, beans, lettuce, celery, radishes, — in fact nearly all the vegetables that grow in the States, — is hard to find. And, in addition, home after home has at the side or in the rear, a hothouse.

In one of these greenhouses, which stood at the rear of a charming bungalow, were growing tomatoes in great quantities, cucumbers, cantaloupes, peppers, onions, radishes, lettuce, parsley and other kitchen herbs. Outside, in the garden, were cabbage and celery that had been started in the greenhouse. All the plants in the hothouse were in a flourishing condition and were bearing prolifically. Some of the tomatoes weighed thirty-four ounces and those weighing a pound were everywhere. The building, twelve by twelve feet, cost one hundred and fifty dollars.

The near-by garden was a most appetizing sight. Peas, onions, beets, beans, carrots, potatoes, turnips, corn, radishes, cauliflower, ground cherries were all flourishing. In one patch were sugar beets from which the family made its own syrup; in another, lettuce heading up which the thrifty housewife hung up to dry and then by putting in water in the winter had fresh, crisp lettuce.

In the rear of the garden were a chicken yard and house where a large number of fowls scratched and clucked contentedly. In the winter chicken houses must be lighted and warmed, but this is not so difficult a matter as it sounds. The lighting is merely a matter of switching on and off electricity for a few hours of the day. The heating is done by means of a big stove that only needs attention once a day. But this slight effort means fresh eggs, chickens for the table, and a good profit if one cares to make a business of the work. From these chickens, though they are kept merely for family use, seventy-five dollars was realized one January, and the cost of their feed was only thirty-seven dollars.

It can thus be seen that life at Fairbanks, though in touch with the frontier and the primeval, has all the comforts and pleasures that civilization has to offer. It is civilization in the heart of the wilderness, and the townsfolk drink of the joys of both.

But Fairbanks has a bright future as well as an attractive present. Its prosperity does not depend entirely upon its mining industries. These are great. It is already acknowledged to be one of the world's greatest gold producing districts though its miners have worked under great handicaps. It has many comparatively low grade ores not worked yet because of the cost and it has quartz prospects that will yield richly when lowered cost of transportation permits the bringing in of the necessary machinery. In addition, tungsten and other valuable minerals have been found and are only waiting cheaper transportation rates to be mined. Four and a quarter millions have been taken out within one hundred and fifty miles of Fairbanks in one year. Half of the gold production of the Territory at present comes from around Fairbanks.

This mineral wealth alone makes a bright future for the town. But the city has much besides this in the territory adjacent to it to bring prosperity. It is in the heart of Alaska's richest agricultural domain. The Tanana Valley, which practically surrounds Fairbanks, contains a million acres of good agricultural land. Already there are many small farms and dairies about Fairbanks that are doing exceedingly well. One of these about three-quarters of a mile from the town has ninety acres under cultivation and five hothouses in which are raised in the early spring tomatoes, cucumbers, cantaloupes, lettuce, onions and such green stuff. These are shipped to Iditerod, Ruby, Nenana, Fort Gibbon and other points in the interior, sometimes going as far as seven hundred miles. In the beginning of the season the tomatoes bring one dollar a pound and the cucumbers twenty-five cents to one dollar each. On the farm are grown barley, oats, hay, and in the neat patches are rows of cabbages, cauliflower, Brussels sprouts, beets, onions, carrots, parsnips, beans, rhubarb, asparagus and other vegetables. Celery is placed on the market earlier here than in Boston. In a root cellar of one hundred and fifty ton capacity are stored the winter vegetables. It is built partly under and partly above ground, with walls of moss three feet thick. Hogs, chickens, geese, ducks are a part of the business. A threshing machine, mowing machine, reaper and binder do the work of the farm in the most modern way.

This is but one of several such farms in the vicinity of Fairbanks, and those who do not have farms often cultivate a few acres for the profit to be had from them. At one of the roadhouses near Fairbanks, the proprietor raises potatoes and has received nine cents a pound for them. He also, one season, cut eleven tons of hay which

toward spring brought him one hundred and twenty-five dollars a ton. He has received fifty and sixty dollars a dozen for chickens and fifty cents each for little newly hatched chicks.

But the vital factor in Fairbanks' development is the coming of the government railroad. The interior terminus of the road is Fairbanks. This means much lower cost than heretofore on all things that Fairbanks and its industries need, on food, clothing, machinery, supplies of all kinds. It means, as well, cheap fuel, and this is an important factor. Not only in close proximity to Fairbanks but all along the railroad are rich deposits of coal. With the coming of the railroad these can be mined at a good profit and their product hauled at a comparatively low cost. When it is considered that the ground has to be thawed for all mining purposes, that the fuel for this now is wood, that the wood has to be hauled greater and greater distances each year as forests are denuded, that labor is high and transportation difficult, the significance of cheap fuel in connection with the development of the country is tremendous. That is the reason Fairbanks is looking for a growth that will be almost phenomenal when cheap transportation and fuel are hers. She has great resources waiting to be developed. She needs these tools to bring them into being. When they join hands interior Alaska will become one of the busiest and greatest producing regions of the world.

In addition, Fairbanks will become a great mecca for tourists. Many beautiful scenic highways centre here. The tourist can come by the entrancing Inside Passage, the magnificent White Pass and the fascinating Yukon, or the trip may be made up the Yukon and out over the White Pass. The government railroad running through

some of the most wonderful scenery in the world will transport tourists in a few days from its beautiful seaboard terminus Seward or Anchorage, or they can come from Cordova or Valdez over one of the most glorious scenic auto highways in the world, a road which when it becomes better known will rank with the world's most famous roads for grandeur and beauty. For more than three hundred miles it runs through the heart of the most majestic mountain scenery the world knows, through peaceful valleys, over stupendous mountain ranges, through dark canyons, along torrential rivers. It is aflame with the beauty of wild flowers. It thrills with wild animal life. And not the least part of the enjoyment is the hospitality of the roadhouses, unique hostels unlike anything of their kind the world elsewhere has to offer, yet full of comfort, good cheer and good food in the heart of the primeval wilderness.

Geographically, Fairbanks is the centre of Alaska. This, in itself, would be of little value, but when are considered the rich mines, the agricultural possibilities about it, the railroad, roads and river that run like great arteries from here to carry these products to all parts of the Territory, this central location is valuable. It means that this geographical centre will make it industrially the centre of the Territory.

An interesting side trip from Fairbanks is out to the creeks. "Creek" in Alaska has a special significance. It usually means a mining camp. One goes out to the creeks, or he is living on the creeks, and the understanding is that he is going to some mining camp or that he is mining. Creeks and mines are synonymous. So, when you go out to the creeks, you are not going to a picnic on some shady, winding stream as you might be doing did you thus state your intention in New Jersey or

Indiana, but you are going to a little mining camp or to some individual mining operation.

When you first start out from Fairbanks for the creeks, however, you might think you were in New Jersey or Indiana, for you pass neat, thrifty-looking farms with rail fences and herds of sleek-looking cattle. But the scenery is different, for soon before you stretches the great, broad valley of the Tanana with the river gleaming in it, and far away blue mountains. On clear days Mt. McKinley, soaring twenty thousand, three hundred feet in the air, can be seen.

Nor are the names of the farmers such as one usually hears in the East. The Alaskan farmer has, to be sure, a proper and polite cognomen. But the community is apt to give him one that it deems especially appropriate, and this is the one that rises most frequently to the lips. Thus one goes by the farm of Dirty-face John, and as men are passed along the road they are pointed out as Hungry Ike, Eat-'em-up Jack and other picturesque terms.

The road sweeps up and down slight grades and soon the farming land is left behind and gentle hills appear. Here and there is a cabin, a dump, sluice boxes and the other paraphernalia of mining and you know you are reaching the mining district. The soil in many places is a black muck through which tiny streams sluggishly meander and is vastly different from one's preconceived ideas of gold-bearing ground. But underneath lies some of the best gold-bearing dirt in Alaska. To have your conductor with a wave of the hand point to a most ordinary scrubby looking hillside and say nonchalantly, "A million was taken out of there," or off to another stretch of grass and "nigger heads" and observe, "Jim got five hundred thousand out of that," gives you a sud-

den and violent attack of gold fever. Or perhaps he will say, "The fellow who had that claim sold out for seven hundred and fifty dollars and the man who bought it cleaned up a million," and you wonder just what your feelings would have been had you been the fellow who sold.

Fox, one of the small mining towns in this section, is but a collection of rather ramshackle houses, restaurants and stores on each side the railroad track, for a railroad runs out here from Fairbanks. Tailings are heaped all about, and the high framework that holds the flumes through which water is carried to the miners is right at the edge of the little settlement.

A new method of mining has been introduced on some of the creeks that promises to be of great help in working low grade ores. It is an underground scraper that does with three men the work of twenty. This means a big saving and will permit the mining of ores hitherto not profitable.

In the early days trips to the creeks were not so easy or pleasant as to-day. There were no roads and autos. The one going made his own trail through dense brush and often reached his destination with his clothes almost torn from his back. To-day, however, roads and a railroad make a trip to the mining districts about Fairbanks a comfortable and pleasant expedition and one full of interesting information as to methods of placer mining.

CHAPTER XII

MOTORING THREE HUNDRED MILES IN THE HEART OF ALASKA

THE GOVERNMENT ROAD TO THE COAST. A HIGHWAY OF UNSURPASSED SCENIC BEAUTY. THE WILDERNESS HOSTELRY AND ITS UNIQUE CHARM. THE VALLEYS, CANYONS AND GREAT SNOW PEAKS OF THE ROUTE. WILD FLOWERS IN PROFUSION. THE COPPER RIVER RAILROAD AND ITS GLACIERS.

FROM Fairbanks one of the most delightful routes to the coast is by automobile either to Valdez or to Chitina and thence by the Copper River Railroad to Cordova.

The road is the government trail laid out in 1905 by the Alaska Road Commission of which General Wilds P. Richardson was then President. It is the mail route to the coast and in the winter, when navigation on the Yukon is closed, is the only means of communication between the interior and the outside. The mail is brought from Cordova or Valdez by sled to Fairbanks and then sent by dog team to Fort Gibbon, Nome, Caro, Arctic City north of the Arctic Circle, and to other interior points. At places where short cuts can be made in the winter, but which are impassable in summer, the winter trail branches off. Otherwise both winter and summer routes are the same.

When the road was constructed there was no thought of its present use as a motor highway. But in 1913, Mr. Robert Sheldon, a resident of Fairbanks and Road Commissioner for the Fourth Judicial Division of the Territory, decided to see if the trip could not be made

by automobile. Speaking of his initial efforts he says, "When I first proposed an auto line to the coast my friends thought I ought to be examined for lunacy. The man who first said the trip could be done in a buckboard was counted insane and when I suggested doing it in an automobile, I was said to be in a worse state than he. But I made the very first trip in three days without any serious difficulty and would have accomplished it in less time had I not had a breakdown and been compelled to stop for repairs. Now, our stage line makes regular weekly trips, and often an extra run when some one is in a rush to get to the coast."

On the morning the cars start, the stage office is a busy place. Passers-by stop to watch. People come to see friends off. Miners, tourists, workers at missions along the route, passengers of many kinds arrive with all sorts of baggage, from the tarpaulin "pack" of the prospector to the smart steamer trunk of the tourist. One after another the cars drive up. Baggage is roped on. The passengers are assigned seats and away the cars whirl.

The route swings out one of the principal streets of Fairbanks and through a level stretch of land, past fields and gardens with wild flags blooming by the roadside until the spruce woods begin. Into their green depths it sweeps, a little stream mirroring their shadowy loveliness in its clear waters. A roadhouse is passed now and then, a staunch log building, sometimes with brilliant wild flowers growing on the roof. In a clearing a little farm is a picture of thrift and prosperity with its fields of oats and hay and its comfortable log dwelling. Then the Tanana River appears, swift, muddy, and in a few exhilarating hours of seemingly flying through spruce woods and lanes of wild flowers with a wonderful blue

sky overhead and a cool, spicy air tingling the blood, the car sweeps up to Salchaket, the roadhouse, for luncheon.

Each roadhouse is a study. Each is unique, each different, and each reflects the personality of the one conducting it, so that they become an interesting study of temperament rather than a mere eating and resting place, for temperament is very much a part of life in Alaska. The man or woman who goes to Alaska and stays there is usually a person of marked individuality and it crops out in all he says and does.

The Salchaket roadhouse has a comfortable sitting room with a broad, cushioned seat running along one side, with windows, a big stove with the inevitable rack above it for hats, socks, shirts, any and all kinds of wearing apparel that may need drying in winter or stormy weather. Rocking chairs, a couch, and the ever present phonograph further make the room homelike. To one side is a store and to the rear a dining-room where the table literally groans under the feast spread — roast beef, mashed potatoes, peas, salad, pickles and relishes of many kinds, stewed apricots, wild blueberries, cherries, pies, homemade bread and biscuit, and tea and coffee. Upstairs are comfortably furnished bedrooms and a bathroom with hot and cold water.

Salchaket is a mission station of the Protestant Episcopal church, and a little Indian settlement near by with its mission house and school gives an interesting glimpse of the good work done in Alaska by Bishop Rowe and his associates.

The scenery that began with such gentle beauty soon grows wilder. The Tanana River is crossed on a flat, scowlike boat drawn by a cable and the road begins to climb, giving wonderful views of the broad river bottom with its mud flats and islands and mountains beyond.

As lovely as the distant view is the one right by the car wheels of golden mustard and rosy fireweed and the exquisite pure azure of bluebells. Thickly among them grows a fine, feathery grass somewhat suggestive of the slim needles of the pine, but slenderer, more delicate, and a vivid green. It is a wonderful ribbon of color that winds by the road and the eye scarcely knows which to seek, the great spaces ahead of river and mountain, or the glowing gold and rose and blue and green at hand.

The road winds at times through thick birch forests. Straight and slender and shining stands this debutante among trees, as some one has named this slim, white-robed dweller in the woods with its fluttering green leaves. Occasionally a little lake appears shining brightly in its frame of green.

It is interesting to study the construction both of the road and the telegraph lines in this part of the world. All the bridged culverts that cross the road, and they are many, have slender poles sticking up at their ends. These poles tell the drivers in winter when the road is piled high with snow where to go. Else they might drop off the end of the bridge into a deep ditch.

The telegraph wires are supported on three poles that in their arrangement suggest the outline of a tepee. This is done so that in case of forest fire the wires may have a better chance not to be grounded than would be the case if supported by one pole.

The stop for the night is made at the Richardson road-house, immaculately clean, very comfortable, and with a supper prepared by one woman at three hours' notice for twenty-one hungry people, of moose steak, mashed potatoes, mashed turnips, macaroni and cheese, a good salad, hot biscuit, bread, radishes, tea and coffee, fresh rhubarb pie, a delicious pudding, stewed fruit of various

“ Occasionally a little lake appears ”



kinds, pickles, and two kinds of homemade cake. The cooking at all these roadhouses is excellent, the good home kind that is welcome to almost every one. Nearly all the places have their own gardens and raise lettuce, radishes and all sorts of vegetables. Many have their own chickens and serve fresh eggs. At one were cows, and fresh milk, thick cream and homemade butter were on the menu.

The stops at these roadhouses both at noon and night are enlivened not only with the phonograph, and there are good instruments and good records, but with stories told by those who gather in the living-room or about the dining table. Every roadhouse has its phonograph and a large supply of records, among those at one place being selections by McCormack, Alma Gluck, by many noted grand opera singers, famous solos by noted violinists, compositions by Mendelssohn and composers of equal note.

The stories told are drawn largely from personal experiences and give the hearers some unusual pictures of life in the wilds. Humor is not lacking, and often is as sharp and refreshing as the keen edge of the breeze that sweeps from snow peaks and spruce forests. Alaska politics and federal rulings are discussed with a frankness and clearness that throw a revealing light on many Alaskan problems. So that the hours spent in living-room or at the table are a delightful and unique part of the trip.

From Richardson the road runs high above the river and then sweeps into the Tenderfoot Creek district, an old mining region where deserted cabins and abandoned dumps tell of the work of bygone days. Here and there some prospects are still being worked. The soil is a black muck and the miners had to go down seventy-five feet to gravel in some instances, which made mining here costly since it was difficult to get in machinery and sup-

plies. Across the hills is Cyclone City where now is just one inhabitant.

The road soon leaves this little story of failure and disappointment behind and sweeps out upon a wonderful view, the river miles broad cut up into innumerable channels and with countless islands and far off upon the horizon a great world of mountains unfolding and infolding into more and more ranges. Farther on the stream narrows in again. Big, bold bluffs appear, and another ferry with cable carries the car across to a roadhouse, a few other buildings and a little level space covered with grass. The Tanana River sweeps off among the mountains and is lost to view, but the Delta River almost immediately appears and is seen every little while adding its beauty to the ever-changing landscape.

The road soon skirts a deep shadowy ravine, the car on a level with the tops of the trees, and cliffs shutting the gaze in to the beauty at hand of sombre depths, gray boulders and steep rock wall. Then suddenly it sweeps out again into the great spaces and you ride along the rim of a chasm that is suggestive a bit of the Grand Canyon of the Colorado except that instead of mountains and peaks below the eye is a vast forest of innumerable thousands of spruce trees. Straight and tall they stand in orderly rows as far as the eye can see. Far on the other side is the level rim of the chasm, beyond this blue mountains, and far on the distant horizon the great Alaskan Range with peak upon peak towering into a sky cloudlessly, vividly blue. Monarch of all, Mt. Hayes rises superbly white almost fourteen thousand feet.

Soon, on the other side of the road, appear the Sheep Mountains, snow-capped and snow-crevassed, and thus named because they are the home of great numbers of mountain sheep. The silver tip and glacier bear are also

found there and these mountains are a popular country with the big game hunters.

All along the roadside, and as beautiful in their way as the great snowy peaks, are the wild flowers, yellow daisies, wild larkspur, a wonderful blue, and the harebell, a mountain variety with a lovely blue cup much like a crocus, growing on a short stem that droops under the weight of the blossoms and gives the flower the effect of being strewn carelessly but gracefully over the ground. The color is an exquisite pure purple-blue, the flower rather large and as it lies on the ground as if scattered by a lavish hand, the effect is beautiful.

A stop is made for luncheon and then the journey is resumed through a green valley, treeless, but with a sheet of emerald green grass sweeping up the gentle slopes of the hills that hem the little valley in. These hills are known as the Fox Hills because of the great number of these animals that burrow here. Now and then a break in the green walls gives a vision of tiny, silvery lakes, the broad river and peak after peak, unbelievably high, of the great range that banks the horizon.

Onward the road winds through spruce forests, through lanes of wild flowers, azure blue larkspur, yellow daisies, white blossoms of many kinds, rich purple-blue lupines, lavender asters, an exquisite rose-pink pea; the bluebells and the pink peas side by side as if knowing that they enhanced each other's loveliness by their blue and pink contrast. Out close to the broad shallow river the road winds, the mud flats of the river ablaze with great sheets of the rosy wild pea; the shining silvery water, the vivid pink, the blue sky and the snow mountains making a spectacle of color dazzling in its brilliance.

A stop is made for the night at a comfortable log roadhouse on the banks of a rushing river with moun-

tains all around and the next morning the road winds high above the river with the mountains green in the foreground and snowy, far-away peaks hemming in the scene. Then the vista narrows. The end of the road seems to be blocked with a great range of snow mountains, more magnificent than any Alps, and then out over the bed moraine of a glacier it sweeps with a rushing glacial stream here and there and a great, blue ice cave showing at the foot of the glacier not far away. Over the gray rocks sweeps the carpet of glowing wild peas. Far and near soar snow mountains and overhead arches a wondrously blue sky. It is a spectacle of color and grandeur to ravish the senses and it is doubtful if the world can equal it elsewhere. In fact, men who have been over the road and who have travelled in nearly all parts of the world say it is not matched elsewhere for superb scenery. It is a road not so well known to tourists, but travelled principally by the people of Alaska who know it and by government officials and those coming to Alaska both from foreign countries and our own upon special missions. This road offers a short cut to the coast and they take it rather than the long trip to the mouth of the Yukon and thence a long sea voyage. They have little idea of the scenery that awaits them, but when they do discover what a treat is theirs they are loud in their enthusiastic praise.

Along the bank of the river, around high bluffs, the road winds, flowers draping the sheer walls like hanging gardens, then into a narrow, V-shaped valley, the walls rising at steep angles. It is a valley peculiar in its grim beauty and evidently volcanic. The walls are sheer, smooth slides of what seems a fine gravel, a soft, gray green in hue, colored here and there with red. At the top they are cut and ridged into jagged peaks. Not a

shrub, not a spear of grass grows on them. But this severity is not unbeautiful. The sweep is so tremendous, the sides so smooth, the color so odd yet so soft that the eye lingers upon the strange, weird loveliness.

Then out into a green meadow the road flashes, and gentler green hills appear and lakes, and a glance backward shows the snow mountains as a great circle of peaks just showing above the nearer hills. Far back to the left a glacier is seen and a turbulent stream pours from it and wanders through a green valley and into a lake beyond. In the distance is seen one of the government's winter relief stations, a cabin stocked with wood and various necessities for those who may get caught in a blizzard. For this is about the top of the divide between the waters that flow into the Yukon and those that join Copper River. It is eighteen miles here between roadhouses and in the winter those trudging on foot or in sleighs often get caught in terrific Arctic storms and would perish if no shelter were near. The cabin is entered from the roof for the snow is piled to the eaves and it would be impossible to enter by an ordinary door.

The road now runs for many miles along another swift flowing river, the Delta having been left behind, that winds in graceful curves around high bluffs and jutting peaks and wooded islands. The current is rapid and foams and swirls over bars and rocks, or in deeper places flows with the quiet swiftness of strength and volume. Then it swings away behind hills and a region of lovely lakes begins, tiny pools some of them, lying amid spruce trees and wild grasses and blossoms with clearcut reflections of sky and tree and flower in them and tiny wild ducks joyously swimming on their smooth surface.

A roadhouse is reached for the night, a comfortable place with deer skins and other fur rugs on the floors.

with rocking chairs, and ice water and delicious fried chicken and oranges and French fried potatoes and many other delightful things one would never suppose could be served in the wilderness.

The scene that lies before the eye in the morning as the start is made brings a gasp of amazement. Rising sheer into the blue sky seemingly but a hand's throw away are three towering mountains clothed with a shining garment of snow from top to base, Mt. Wrangell, sixteen thousand feet high, Mt. Sanford, fourteen thousand feet high, and another colloquially called "The Drum" almost the same height. Serene, majestic, they stand, and all day, from one point or another as the road winds toward them, they rise before the eye. Clouds drift and float across them. Exquisite blue-gray shadows soften at times their sides. But from early morning till the Alpine glow flushes them a lovely rose pink, they dominate the landscape. And it may be that Mt. Wrangell will be in a specially gracious mood and "blow" or "steam" or "smoke," as the operation is variously called, when an airy, delicate cloud of steam drifts slowly upward from its crater and poised, lightly as thistledown, finally floats off into the blue.

The scenery of this day's ride is the most magnificent of the trip. The mountains of the great Coast Range fill the sky with peaks fourteen thousand, fifteen thousand and sixteen thousand feet high. At times the road sweeps out where some broad valley will carry the vision hundreds of miles down its length, dotted with lakes, green with forests, showing a river like a silver ribbon tracing its way through it. Again the road clings close to the mountain side far above the Copper River which winds through a great chasm with high, sandy cut banks and huge bluffs and level flats covered with spruce. High

above all soars Mt. Wrangell, the steam slowly, mistily drifting from its top.

Past Copper Centre, a little town of log houses, log stores, warehouses, dog houses and stables, the autos whirl, over a rushing mountain river, up a hill giving superb views backward of river and mountains, then through a dense woods of tall, straight spruce and birch trees, the vista ahead that of a shadowy green lane with a glowing border each side of rosy fireweed and at the far end snow mountains with their soft blue shadows. Then down through a deep, sombre gorge the road plunges and up again on high bluffs above the Copper River and then out into a green meadow where is a roadhouse and supper.

In a lovely setting is this roadhouse. Low hills are on one side with spruce and birch. An ash-gray canyon leads off into the mountains in another direction and the great sweep of the Copper River basin and the majestic range of snow mountains delicately flushing pink in the sunset fills the remainder of the view.

Chitina, the end of the journey, is not far away, and after supper the start is made for it. Across a river the road winds and then up and up six miles around mountain walls and above the Copper River it climbs. The wide rushing river far below is a sheet of gold in the sunset light. The high cut banks are a delicate sand color. The tiny islands that dot the waters are the deep, shadowy green of crowded spruce. As far as the eye can see across the great chasm of the river is peak after peak of snow mountains all rosy now in the Alpine glow. And rising serenely from Mt. Wrangell is a huge, straight column foaming over at the top into the likeness of a great, glorious flower.

One wonders if he is dreaming. The beauty, the tre-

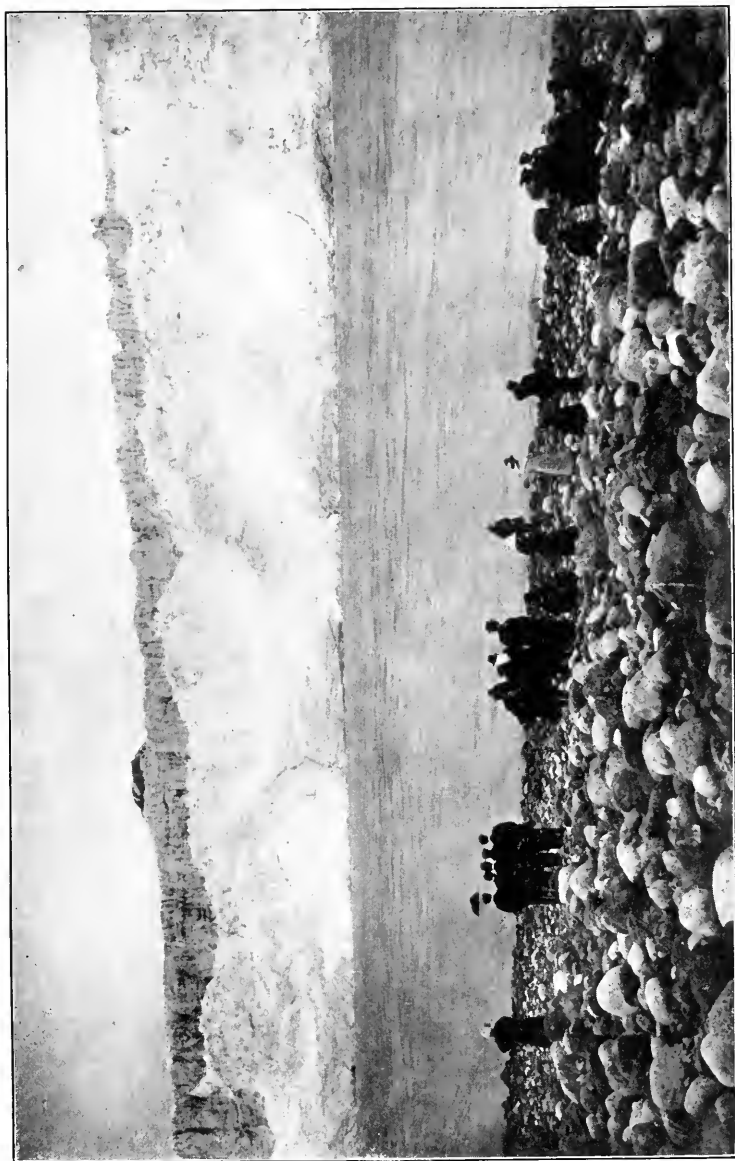
mendousness of it all seem unearthly. One feels there can be no such scenery on this planet. But on the auto whirled, around the head of a deep canyon down which rushes a waterfall and then out again to the river bank with its glorious view. It is half past eleven at night but the light is still strong, which adds to the sense of the unreality of it all.

As Chitina is neared, the road plunges into a deep, sombre canyon. The walls rise high and sheer on both sides. A chain of little lakes black in the shadow of the cliffs fills the canyon floor. The road runs, a narrow thread, between rock and water. Far ahead the walls appear to close in together. There seems no space for the road at all. But it twists and turns along the water's edge and finally sweeps out into an open, rocky, level space and Chitina is reached.

Chitina is the usual small Alaskan town of a few houses mostly of log, several hotels, stores and restaurants. This is the terminus of the auto road and the Copper River Railroad is taken for the continuation of the journey to Cordova.

This railroad achieved the seemingly impossible in railroad construction. At one point it runs between two of the most famous glaciers in the world, the Miles and the Childs, and the bridge that spans the river here has a history unique in the annals of bridge building.

Aside from the interest the feat of constructing such a road holds, the route has scenic beauty of a high order. From Chitina the road passes on high trestles over several deep gorges past an Indian village where fish are drying, on down along the river with fine views before and behind of the stream and the great snow mountains towering above it. Then the road plunges into a canyon with high bluffs jutting in points into the river. High



CHILDS GLACIER

above the swift water, the track creeps around the mountain edge, giving marvellous views at every turn. Farther on, Baird Glacier comes into view with grass and other vegetation growing on the glacial ice.

The scene becomes a wonderland of ice, snow mountains, dense vegetation and the swiftly flowing river. Then into the famous Abercrombie Canyon the road plunges, the walls rising steep and sheer, the river foaming over great rocks and tossing and swirling in cataracts and rapids that make those of White Horse seem playthings in comparison.

The road now comes to its famous glacial stretch, Miles Glacier across the river with a front three miles long and two hundred and fifty feet high, and Childs Glacier almost at the track side with a front also three miles wide but three hundred feet high. It is said that at one time this great ice sheet was connected but that the Copper River cut it in two.

It is a magnificent sight. Far to the sky line on each side the sheet of ice sweeps. Jagged mountains are all around with snow in their ravines and crevasses, their lower slopes green with birch and willow, and right at hand the two towering ice walls, castellated, crevassed, fretted into spires and minarets and towers, and blue-white and sparkling in the sun.

The moraines look like great heaps of tailings. Earth has lodged in them and though the soil is a compound of glacial ice, rock and muck, vegetation grows luxuriantly in it, and gradually over these unsightly moraines nature spreads a lovely mantle of green.

On down through ever changing mountain and river views the train whirls till at last Cordova, the copper gateway of Alaska, is reached. It is a busy town of pretty homes, bustling stores and hotels.

CHAPTER XIII

TO THE WESTWARD

VALDEZ AND THE KEYSTONE CANYON. PORT WELLS AND ITS FIORDS AND MARVELLOUS GLACIERS. BEAUTIFUL KODIAK. THE ALEUTIAN ISLANDS. KATMAI VOLCANO AND THE GREAT ERUPTION OF 1912. BOGOSLOF ISLANDS. DUTCH HARBOR AND UNALASKA.

FROM Cordova "to the westward," as the phrase runs, stretches a great region of islands, peninsulas and intricate waterways as interesting, beautiful and rich in resource as any other section of Alaska. But it is less well known. It is off the beaten track. It has, with the exception of a few towns, very little transportation service, and so it lies here unvisited, unknown, yet with a life of to-day and a history of yesterday that thrills.

It was to this part of Alaska that the Russians first came and not only are the descendants of these early Russians to be found on these islands to the westward but here and there is a quaint little Russian church, the ruins of an old shipyard or of some other of their industries. On these islands more than a hundred years ago gardens were planted and cattle raised.

The Indians who live here to-day are still in their most primitive condition and one can still see many of their quaint practices and customs.

On these islands are rich undeveloped, even unguessed, resources. New discoveries are constantly being made. Only recently chrome ore was discovered. At one place is a peculiarly beautiful stone that washes up on the beach

in almost unlimited quantities. It seems to be from descriptions a combination of agate and opal, for those who find it cannot classify it. But they say it has the markings of an agate and also a pure, clear, lovely light in it like an opal. When cut and polished it makes beautiful trinkets. So great is the amount washed in that the natives have paved a stretch of sidewalk in their little settlement with it.

In this region are the great volcanoes of Alaska. Some peaks are almost constantly steaming. At times there are terrific eruptions. Islands appear and disappear with spectacular displays of energy that both fascinate and appall.

And with all this picturesqueness of history, primitiveness of peoples, richness of resource and titanic exhibitions of nature is a grandeur of scenery that thrills.

One can come to this region direct from Seattle or continue the trip from Cordova, if the journey so far has been by the route through the interior.

The harbor at Cordova is one of gentle beauty. Islands dot it, and headlands crowded with spruce make the shoreline a stretch of lovely curves. The hills rise steeply from the water's edge dense with the forest except where the trees have been cut away to make room for the houses clinging to the steep side. The town of Cordova itself lies the better part of a mile back from the harbor.

From Cordova to Valdez is a comparatively short trip through much of the same kind of beautiful scenery as the Inside Passage. Tremendous rocks, frowning crags, dense forests, towering peaks purely white, make the journey one of scenic enchantment.

The harbor of Valdez, with the little town nestling at the feet of the lofty mountains, forms another beautiful picture as the steamer sails up to the dock. The town

though small is a place of pretty homes, comfortable hotels and attractive shops and makes excellent headquarters for a stay of a week or more. Many delightful trips can be taken from Valdez, and the person who wants a brief holiday in Alaska at minimum expense will find this a most satisfactory spot to select.

One of the popular trips from Valdez is a motor ride through Keystone Canyon. This road joins the trail from Fairbanks to Chitina and one can go on to Chitina down through the wonderful scenery of the Copper River Railroad and back to Valdez by launch or steamer from Cordova, thus making a round trip that for scenery has few equals.

The road leads back from Valdez up through the towering mountains that enclose the town. At times the road winds up and up twenty-six hundred feet, almost a steady climb of seven miles, giving superb views of mountain ranges, great valleys and winding streams. Waterfalls rush down the mountain sides, glaciers thrust out their icy tongues to dispute the way, overhanging cliffs almost brush the top of the car. It is a ride of wild, rugged grandeur that thrills with tonic exhilaration and yet is not without loveliness of wild flowers and the sombre beauty of spruce to soften the grim gray rocks.

Another trip rich in scenic grandeur is to the Port Wells country. This is off the beaten track, but few regions of Alaska offer more remarkable natural beauty. It is at present a mining section and small launches run from Valdez carrying supplies for the miners. They can also be hired exclusively for the trip.

The little boat skims through beautiful narrow waterways with islands and wooded points giving graceful shore lines and towering snow mountains carrying the eye to the blue vault above. Past Glacier Island into Co-



Courtesy of Mrs. E. H. Harriman

COLUMBIA GLACIER

Columbia Bay the launch speeds with a view of Columbia Glacier said by many to be the most beautiful glacier in Alaska. Thence the route lies past Granite Point, with Fairmount Island on the left, and Kniklik, a deserted Indian village, a little silent collection of huts and log houses with a tiny Russian church. It brings pictures of a strange, quaint foreign life here a century or more ago, a life that was an unusual mingling of the Old World and the most primitive of the New.

But the village and its memories are soon left behind and the boat flits into picturesque Esther Passage with high enclosing mountains and then out into the broad, shining waters of Port Wells.

Port Wells is from fifteen to twenty miles long and ten miles wide. The mountain walls rise steeply. Bays and inlets lure on each side but a richer feast waits, and on the boat speeds to Harriman and College Fiords at the northern end where the magnificent scenery lies.

On all sides are towering mountains capped and cloaked with ice and snow, with glaciers sweeping down their sides through gorge and ravine. Rushing waterfalls are everywhere and the sound of their waters and the cracking of the bergs as they break from the glacial ice walls fill the air. The water is dotted with these stately bergs slowly moving to sea, some as high as four and five story buildings, fantastic in shape, wondrously blue and glittering in the sun like millions of diamonds. When a glacier breaks and a berg takes its plunge the water boils like a Niagara and great waves rush shoreward setting the other bergs to dancing and shining with even greater radiance as they dip and sparkle in the sunlight and water.

Wild life is abundant. Waterfowls of all kinds are everywhere. Ducks contentedly float on the waves or fly in great flocks low over the water. At one point is a great

rock where high above the waters the gulls in countless thousands make their home. The Indians come here for the eggs. Fish are plentiful.

But, after all, it is the scenery that holds the gaze. College Fiord stretches before one twenty-four miles long and two to three miles broad, sombre in the shadow of its steep mountain walls yet impressive in its stern beauty. At the head lie Yale and Harvard Glaciers and on its western side eight others, all named after our colleges — Radcliffe, Baltimore, Smith, Bryn Mawr, Vassar, Wellesley, Barnard, Holyoke. In cascading ice falls, in great ice cliffs, in gentler winding ice streams with great circles of snow mountains for background, with bare peaks, gray granite cliffs and tongues of spruce and hemlock here and there in near-by ravines about them, they come down and break in ice walls from one hundred to three hundred and fifty feet high at the water's edge. The surrounding mountains are eight thousand, nine thousand and ten thousand feet high, hoary, majestic peaks that fill in the background on all sides.

Harriman Fiord is on the same order, only perhaps not quite so long, and with not quite so many glaciers. But its enclosing walls are three thousand to four thousand feet high, and it is a place of unspeakable grandeur and sublimity.

The trip is easily taken from Valdez and one can bring a little camping outfit and camp anywhere along the shore at little cost. Firewood is plentiful, fish and game abound, and boats will bring supplies or pick one up whenever desired.

The return can be made to Valdez or the trip can be continued through winding waterways and past islands and capes, for Prince William Sound is crowded with islands to Seward, the coast terminus of the government

railroad and on around into Cook Inlet and up to Anchorage where are located the headquarters of the Alaska Engineering Commission that has the building of the government railroad in charge. The trip is in every part interesting and beautiful, full of glorious scenery and touching closely upon the early Russian history of Alaska.

South from the Kenai Peninsula, which is skirted in this trip, is the Kodiak group of islands, and westward from these the Alaska Peninsula and the Aleutian Islands. The Aleutian Islands alone extend some twelve hundred miles westward from the Alaskan Peninsula. From this it can be judged what an area this little known "westward" part of Alaska covers.

The name Kodiak is generally accepted to mean the island and the little town that are so called but originally the name was applied to the archipelago which includes Kodiak Island, Afognak, and some others. The name as used by the Russians was Kadiak from the Indian word Kaniag, meaning island, though other authorities give the Indian name as Kikhtak. Kadiak is still used by some, though Kodiak is the one most frequently heard. Since, however, Kadiak was the earlier usage and seems to be nearer the Indian name, it would seem as if it were the better one to adopt.

On some of the islands there is quite a bit of spruce timber. The shore line in many places consists of high bluffs with pinnacles or needle rocks on many points extremely picturesque in effect. But Kodiak itself has little of this character. The eastern half of the island is wooded and there are some mountains. But the landscape in the main is composed of gently rounded hills covered with grass. If the name Emerald Isle had not already been preëmpted it would aptly apply, for many world travellers say the hills here are the greenest they

have ever seen. Some have called Kodiak a lyric, it is such a remote secluded bit of pastoral beauty with its quiet, primitive life, the billows of green sweeping to the hill tops and the wide grass-grown streets, the simple homes, the quaint Greek church of the town. John Burroughs says it is one of the fairest sights the world has to offer. It is a bit of the Old World that few know dropped down in this far-away corner of the New, and so little has modern life touched it that it is still a mixture of the primitive and mediæval.

Both the island and the town of Kodiak were settled by the Russians. Colonists were brought, forts and houses built and gardens planted. Many of the inhabitants to-day are descendants of these early Russians and the Russian language is heard quite as much as English. In fact, a school teacher in a near-by settlement on the Kenai Peninsula said that when she went there Russian was the only language spoken. In addition to the Russians, Kodiak also has a native population and some American residents connected with the government agricultural station located here and with the fishing industries.

Many quaint Russian customs survive. Holy Week, the "Bright Week" in the Russian calendar, is a time of great festivities. Natives, no matter how far distant, hasten home for its celebration. There are many religious ceremonies and processions brilliant with color and gay with music. The kiss of peace is exchanged in public with enemies and old feuds are forgotten.

Music and dancing are a great part of life here. The people are very proud of their dance hall and it is one of the first places shown the stranger. Every one comes to the dances, from the descendants of early Russian governors to shy, quiet Aleut maidens and young men. On

one side of the hall the women and girls sit and on the other the men and boys. There is no conversation between the men and women and no mingling as in our parlors or at our social affairs. The musicians suddenly begin playing at a furious rate, a youth crosses the floor, inclines his head slightly before the partner of his choice, all follow suit and the dance is on.

The luxuriant grass of the island makes it an admirable place for cattle raising. So abundant is this grass that Kodiak has been likened to the "guinea grass" pastures of the tropics. The island is said to be the equal of the best grazing land in the States. The natives have an ingenious labor-saving method of harvesting it. When cut on the mountain side, for it grows to the tops of the low mountains, it is done up in bundles in fish nets and sent rolling down the mountain side to the bottom where it is picked up and taken home, often in boats.

Flowers grow in profusion and salmon berries, high-bush blueberries, and other wild berries are found.

Westward from Kodiak, across treacherous Shelikof Strait, lies the Alaska Peninsula, a region little developed and little known. It is rugged, destitute of trees, and the shore is indented with countless bays and coves mostly small and full of rocks. It is not a region to attract the settler or the miner, though for the latter there is always the possibility of a strike in the unknown parts of Alaska. But it is a region to attract the scientist, for on this Peninsula and the Aleutian Islands is one of the greatest and least known volcanic regions of the world.

This volcanic zone really begins at the head of Cook Inlet and extends westward some sixteen hundred miles. It runs in two parallel ridges, in many places only twenty-five miles apart, and in this narrow though extended line is almost every volcano that has been active since this

region was known to white men. There are now about sixty volcanoes in this stretch, about forty of which are on the Alaska Peninsula, though these figures cannot be stated as absolutely accurate since there is yet but little scientific exploration of this region. The National Geographic Society has sent several expeditions here that have done excellent work. But the area to be covered is so large and the expense of a suitable expedition is so great that taking the region as a whole little exact scientific data is yet available.

On the west coast of Cook's Inlet before the Alaska Peninsula is reached are two volcanoes, Mount Redoubt, or Redoute as it is variously spelled, and Mt. Iliamna, rising eleven thousand and twelve thousand feet respectively. Iliamna is a majestic cone soaring sheer and beautiful into the sky. Sometimes it steams, the volcanic sand and dust that pours out being so black that the mountain is locally said to smoke. At the foot of Cook's Inlet is the island of St. Augustine, almost entirely a single volcanic cone of striking grandeur.

This volcanic ridge, a great fissure or vent it is supposed to be, extends on down the Alaska Peninsula where its most famous peak is Mt. Katmai. The eruption of this mountain in 1912 was the most tremendous volcanic explosion ever recorded.

Vesuvius has had its story teller. Because of this, and also because of the suffering and loss wrought, it stands out in the world's thought as the historic disaster of this kind. Mt. Pelée has been largely forgotten except by scientists. But the eruption of Mt. Katmai in 1912 overshadows both of these so greatly in magnitude that they are insignificant beside it.

The explosions and the shocks threw men and horses to the ground four hundred miles away. It was felt to

the shore of the Arctic Ocean. The ash fell nine hundred miles away, and according to scientists the fine dust went into the higher regions of the atmosphere over the whole world and affected the weather for the summer, being the cause of the cold, wet season of that year.

The effect of the eruption is more comprehensible, however, if comparisons are made with familiar things. Professor Robert F. Griggs, who was the leader of the expedition sent by the National Geographic Society to Katmai after the disaster, computes that the ashes that fell buried an area as large as the State of Connecticut to a depth varying from ten inches to more than ten feet; that if Mt. Katmai had been where Vesuvius is, it would have buried Naples fifteen feet, Rome a foot, that the sound would have been heard in Paris, the dust would have fallen in Brussels and the fumes have been noticeable in Norway.

Had the eruption happened in New York City, the town would have been smothered under ashes from ten to fifteen feet deep, the steam would have been visible at Albany, Philadelphia would have been covered a foot and dark for sixty hours, Washington and Buffalo would also have received an ash cloak a quarter of an inch in depth and ashes would have fallen as far as the Gulf of Mexico. The sound of the explosion would have been heard in Atlanta, Georgia, and St. Louis and the fumes would have been noticeable in Denver, San Antonio and Jamaica.

Fortunately, the disaster did not occur in a settled district. Kodiak was the chief sufferer and its green beauty became a gray desert. Though one hundred miles away, the island was buried under ash. The roofs of the houses were broken in by the ashes that settled on them. The land was a land of darkness and stifling fumes and all the water was poisoned.

A vessel that happened to be in the harbor of Kodiak took the people on board and supplied their needs as best it could until a weird, gray dawn at last broke and they returned to their homes and began the task of rehabilitation. Many of the cattle on the island perished for there was neither food nor drink. The government experimental station shipped its herd to the States until vegetation again appeared.

But the greatest desolation was wrought on the Alaska Peninsula in the immediate vicinity of the mountain. The little village of Katmai though five times as far away as Pompeii from Vesuvius or St. Pierre from Mt. Pelée was a barren waste. The roofs were sunken in on the houses and the buildings were filled with pumice. The church stood in a sea of liquid mud. Trees were dead. Pumice was everywhere. To add to the destruction, if this were possible, a lake that had been formed by rubbish that had gathered across a stream and dammed it, broke and a flood swept down bringing boulders and trees and leaving a great plain of sticky mud.

For several years after the explosion columns of steam a mile high and a thousand feet in diameter poured from other volcanoes of the group. New volcanoes came into existence at the time. Katmai itself really blew its head off and is to-day but a stub of what it was before the explosion. The force of the explosion right at the peak was so great that rocks were literally blown to pieces and the lava was so charged with gas it became steam.

To-day it is doubtful if there is such unusual, spectacular and magnificent scenery elsewhere in the world though it may not be wise to speak of anything in the neighborhood of Katmai as being of a permanent nature for in the twinkling of an eye it may all be changed. But as it stands at present, the region is a remarkable spec-

tacle of mud plains, ash slides a thousand feet high, colored canyons, steaming vents, smoking valleys, ravines filled with bright red mud, and crowning all, great snow peaks.

The crater itself is worth going far to see. It is an enormous, infinitely deep cavity, part of its floor a wondrous blue-green lake, part of it fields of sulphur, part of it fields of snow. Thousands of jets of steam issue with a roar from cracks and crevices, rising sometimes several thousands of feet high. Despite the heat the snow in the crater is not melted. To gaze into this great depth, yellow and white and green and blue, circled with its columns of snowy, roaring steam, is to lose all sense of familiar mother earth and to seem to be on another planet.

Equally unusual and spectacular is a great valley stretching as far as the eye can see, filled with thousands of little volcanoes. Through the unbroken ground, through deep holes, through fissures pour jets of steam, some small, some rising in columns a thousand feet high. The whole great valley is filled with these jets of steam soaring to heaven in snowy beauty. It has been called the Valley of Ten Thousand Smokes.

More natural, but very beautiful, is a canyon several thousand feet deep with faintly green rock walls on one side, rich, mahogany-hued bluffs on the other, and towering above and back of these sheer cliffs, snow peaks, glaciers, snow fields and waterfalls. It is the Grand Canyon of the Colorado and the Canadian Rockies combined.

If this region remains as it is and can be made more accessible for the tourist it has for him beauty of most unusual order and scientific interest of a rare kind.

On beyond the Alaska Peninsula stretch the Aleutian Islands, also volcanic though in not so spectacular a fashion as at Katmai.

Unimak Island, the most easterly of the Aleutians, has two volcanoes, Mt. Shishaldin and Mt. Pogrumnoi. Shishaldin is between eight and nine thousand feet high and in its graceful curving sides, pure cone-shaped peak soaring into the sky and slowly drifting veil of steam which is almost always to be seen floating from its top, rivals the famous Fujiyama for beauty.

Unimak is the scene of the most frequent volcanic activity in Alaska. Whole ridges of mountain peaks split and open and emit flames, lava and ashes. The Russian missionary Veniaminof in describing an eruption on Unimak says, "There was a prolonged subterranean noise like terrific cannonading, then a low ridge to the northeast opened, and flames and black ashes poured out. The ice and snow on the mountain melted and descended in terrific torrents five to ten miles wide."

Beyond Unimak are a few small islands and then comes Unalaska. Here are two volcanoes, but they are not active. Even from the first coming of the Russians they have shown no signs of life except that occasionally one has steamed a little.

Off the northwest shore of Unalaska, however, has been unusual volcanic activity, for here the Bogoslof Islands, composed entirely of volcanic rock, rose out of the sea. A lone peak was here in Captain Cook's time, who called it Ship Island. In 1796 the natives on Unalaska saw what looked like a fog about this rock and one Indian more courageous than the others put out in his boat. He soon returned in terror and said that the sea all about the rock was boiling and that what had been thought to be fog was the steam from it. Later a considerable mass of rock upheaved and the major part of the present island was formed. The Russians gave it the name of Ioanna Bogoslova, St. John the Theologian, be-

cause the upheaval occurred on this saint's day in the Russian calendar. The name has been retained except that it has been shortened to Bogoslova or Bogoslof Islands. In 1883 more land rose, some parts being three hundred feet high, accompanied by dark clouds of dust that drifted over Unalaska and fell in showers of volcanic ash. In 1903, Fire Island came out of the water. In 1906, another island rose to a height of three hundred and ninety-five feet but before it had cooled it sank with a loud explosion.

But one must not think the Aleutian Islands are continually spitting fire and smoke. Though they have their occasional pyrotechnic displays, though many are rocky and barren with sheer bluffs rising three hundred and four hundred feet, others are flat, covered with grass and sheets of wild flowers in the summer and are the seat of fishing and other industries. To the south of the Aleutian Islands are the great cod banks, and cod fishing is one of the occupations of the people. Salmon is also caught and salted and there are some canneries.

Unalaska is the most important island of the group. It is some one hundred and twenty miles long and forty miles broad and has a deeply indented shore line. The land is treeless, rather bold and rugged, and supports a good growth of native grass. It has a better climate for haying, it is said, than Oregon. The cattle raised here are fat, their meat is tender, and they give an abundance of milk.

The principal settlements are Unalaska and Dutch Harbor, which though spoken of separately are practically one, for they are only about half a mile apart. Here are the customs house, Russian Greek church, a Methodist mission, a native school and the houses of the little colony that make their home here. The place is also head-

quarters for the fleet of revenue cutters that patrols Bering Sea to protect the seals.

Dutch Harbor, which was so named because a Dutch vessel was the first to enter it, is one of the finest harbors of the North. Naval authorities say it could be easily fortified and made another Gibraltar and as such would be of value in protecting Hawaii and the Philippines. It would also make an excellent coaling station and with Alaska's coal fields opened and with a trade from Seattle to Siberia passing this way, for hither lies the shortest route, it would soon become an important seaport of the North.

Unalaska was an important settlement during the Russian occupancy, for it was the first colony reached from Kamchatka and boats put in here to be repaired and to bring the supplies the colony always so anxiously awaited.

During the rush to Alaska in 1898 it had another ship building record, for here was probably one of the busiest shipyards in the United States at this time. Lumber, machinery and other equipment for the building of boats were shipped here from Seattle, a corps of carpenters and other mechanics were brought and here were constructed the boats and barges that plied on the Yukon during the years of the Klondike rush. More than a score of boats and barges were built here during one winter.

The Aleutian Islands in addition to their fisheries and their possibilities of cattle raising have other valuable assets, some of these the result of their volcanic nature. There is much sulphur on the islands, especially in the vicinity of Dutch Harbor. If business enterprises develop here as it is expected they will, this sulphur, no doubt, will be commercially mined.

On Unimak Island there is said to be a lake of sulphur in solution. In Louisiana a man has made a fortune



DUTCH HARBOR

through mining sulphur by dissolving it and then evaporating the water. Some such process could be used here at half the cost, for the sulphur is already in solution.

Amber is found on several of the islands, also obsidian, which the natives use for knives, spears and arrow heads. On one of the islands is an agate beach where these beautiful stones in colorings of pink, green, and yellow can be gathered by the sackful.

The Aleutian Islands have often been compared to the highlands and adjacent islands of Scotland and it is believed with the stimulation of certain industries the Aleutian Islands could as easily maintain a population as do these sections of the Old World. In Iceland four-fifths of the population of seventy thousand derive their maintenance from agriculture and from pasturing flocks of sheep and cattle. Many of the Aleutian Islands are as suitable as Iceland if not more so, because of the proximity of the Japanese current, for such industries.

The name given to these islands is said to come from the Indian word "Aliat" meaning an island. It is interesting to note that the names given by Indians were almost without exception significant. We use them with little thought of their meaning but when we do recall the Indian idea in them it adds a distinctive interest.

The name Catherine Archipelago was given by the Russians in honor of Empress Catherine II. But the name Aleutian began gradually to be applied to some parts of the group and gradually was extended to all.

The whole chain comprises an almost innumerable number of islands, but those best known consist of four groups — the Fox Islands, to which Unimak and Unalaska belong; the Andreanof or Andreanofski, named for their discoverer, to which belongs Atka; the Rat Islands; and the Near Islands, in which group is Attu.

Unimak Pass, the best passage to Bering Sea, lies between Unimak Island and Akun Island. It is some two miles in width and makes a noble entrance to the waters beyond. Forbidding and tremendous masses of rock absolutely without vegetation or sign of life loom on each side.

“ A lonely land where no man comes,
Nor has come since the making of the world,”

some one writes of it, as descriptive of the sense of loneliness and desolation it gives.

North of Aleutian Islands in Bering Sea, but not belonging to them, are the Pribilof Islands, named for their discoverer, Gerassim Prybilof. The group consists of four small islands, St. Paul, St. George, Walrus and Bear. To the north of these is the St. Matthew group, consisting of St. Matthew, Pinnacle and Hall. On these islands are the seal herds now under the protection of the United States government. These islands are little more than rocks and sand, with small settlements of natives and government officials.

Still farther north is St. Lawrence Island, low with some prominent hills, and with a native settlement; and still northward in Bering Sea are the Diomed Islands, two small islands between which passes the boundary line between Russia and America.

In the eastern part of Bering Sea, near the mainland, is Nunivak Island, a large island somewhat wooded and with many high hills. The natives of this island are known for the beauty of their ivory weapons and the grace and good workmanship of their boats.

CHAPTER XIV

FROM FAIRBANKS TO NOME VIA THE YUKON

THE LOWER YUKON AND ITS HISTORY. RUBY. NULATO AND ITS TRAGEDY. THE WESTERN UNION TELEGRAPH EXPEDITION. ST. MICHAEL. NOME, ITS GOLDEN SANDS AND THE STAMPEDE IN 1899. THE SEWARD PENINSULA AND ITS RESOURCES. LIFE IN THIS PART OF THE WORLD. THE GREAT ANNUAL DOG RACE KNOWN AS THE ALASKA DERBY.

ANOTHER part of Alaska that has had its gold romance is Nome and the Seward Peninsula. This section of Alaska came upon the world's horizon in '98 and '99 and held a prominent place there for several years. But though it was much discussed and much written about and though thousands visited it, the impression then and the impression now is that it is a far northern section of Alaska, cold, dreary, uninhabitable. Whereas the fact is that Nome is in about the same latitude as Fairbanks and but little above that of Dawson. The people of Nome have their gardens in the summer and the tundra glows with wild flowers. The region is west rather than north. Cape Prince of Wales, its westernmost point, is three hundred miles west of the Sandwich Islands. The fact that Nome is on Bering Sea is probably the cause of this wrong impression, for to many the very name of Bering Sea brings visions of the Arctic Ocean and the North Pole.

Nome can be reached by two routes. Both have features of interest. One is by way of Skagway, the White Pass and down the Yukon, the other by steamer direct from Seattle. Many who come down the Yukon take the trip up to Fairbanks to see this interior city of Alaska

and then return to the Yukon and continue the journey to its mouth.

Scenically the lower Yukon is not so beautiful as the upper river, but historically it is considered by many to be more interesting. The Russians penetrated the lower Yukon and built their forts at various places along it. Some of these were the scenes of conflicts with the natives. Early exploring expeditions toiled up it, for in the early days it was a river of mystery. Few of the first settlers at its mouth or those who ascended it some distance thought this mighty stream was the same one that Hudson Bay agents spoke of in their reports to headquarters and called the Yukon. The Russians called it Kwikpak or Quikpak, an Eskimo name given to the mouth most used.

If those who come down the river from White Horse go to Fairbanks they leave the Yukon at Tanana and return to it at this point for their further journey. If they do not go to Fairbanks, they continue on down from here. In either case, boats are changed at Tanana, as the lower river steamers do not go beyond this point.

The boat speeds down the Yukon, for the current is swift. The banks are wooded and the scenery pleasing. Kokrines, named for a Russian who first settled here, is one of the stopping places along this stretch of the river. It is little but a native village, a trading post, a church, and a government school.

The first important settlement is Ruby, which is built on ground running up rather sharply from the river bank and with mountains beyond that gradually rise into dome-shaped peaks twelve hundred to fifteen hundred feet high. The town is about one hundred and seventy miles below Tanana, and the name is taken from that of a small creek on which gold was first found. The strike was made in 1907, and miners came from Fairbanks, Rampart and

nearly all near-by mining districts. Gold was found on several of the creeks back in the hills, and, as a consequence, a mining town started. It is now quite one of the largest settlements on this part of the river, with stores, hotels, restaurants, and homes.

The scenery as the steamer glides on is pleasantly restful. It has little of the rugged beauty of the stretches farther north but it has the charm of broader waters, and gentler shore lines. At times the banks rise in steep bluffs as of old but the general tendency is to softer outlines. Wooded islands dot the waters, adding a note of the picturesque. Toward the mouth of the Koyukuk a high bluff appears that is quite a landmark. On it is a cross for a Roman Catholic archbishop murdered in this vicinity and the bluff is known as the Bishop's Mountain. The Koyukuk River, which joins the Yukon here, is one of its large and important tributaries.

Below the Koyukuk is one of the most historic trading posts on the river, Nulato. The Russians established a post here in 1838 which was burned by the Indians as was also another built the following year in its place. But in 1841, Zagoskin came with a number of Russians, erected another fort and placated the Indians with gifts and for a number of years the Russians carried on a good trade here with the natives. Zagoskin it was who said the Yukon was not navigable above Tanana.

In 1851 Lieutenant Barnard of H. M. S. *Enterprise* arrived at Nulato in search of information regarding Sir John Franklin. Barnard had heard a report that encouraged him to believe Franklin's party might have found a route over the mountains from the Arctic and he thought he might get some news from the Indians of this vicinity. He was a blunt Englishman unused to Indian ways and he remarked in the presence of some natives

that he intended to "send" for the chief of a certain tribe to see if he could get the information he needed. The chief in question was near-by with a band of Indians. Though savages from a civilized point of view, the Indians have a certain ceremonious etiquette in regard to meetings and visits. This chief in particular being a man of importance among the tribes, was not accustomed to being sent for, and when the remark was repeated to him he was highly offended. He consulted the medicine men of his tribe, and though at that time a better feeling in general prevailed than had in the past, the Indians still felt that the encroachments of the white men boded them no good, and the medicine men in particular were glad of an opportunity to make trouble. They advised the chief to resent this slur upon his dignity, go to the post and demand an apology and satisfaction.

The matter would probably have ended amicably if at this juncture a Russian with an Indian companion had not appeared with the demand for the chief to come to the post. Both were murdered and it is said the flesh of the Russian was roasted and eaten. The Indians then descended upon the post, murdered the people there, including Lieutenant Barnard. When the news reached a post down the river through some who escaped, a rescuing party was sent. But it arrived too late to be of assistance. The dead were buried and over the grave of Lieutenant Barnard was erected a simple cross with the inscription:

LIEUTENANT J. J. BARNARD
Of H. M. S. Enterprise
Killed Feb. 16, 1851
By the Koyukuk Indians

Near the settlement is another grave of note, that of Robert Kennicott, who was prominently identified with

explorations in the Northwest. In 1861 he made his way overland by the Hudson Bay route to Fort Yukon and in 1865 was given charge of the expedition sent out by the Western Union Telegraph Company to survey a route by way of Alaska and Siberia to western Europe. He died in Nulato in 1866 and a simple board was erected to his memory, reading:

In Memory of
ROBERT KENNICOTT
Naturalist
Who Died Near This Place
May 13, 1866, Aged Thirty

This Western Union Telegraph Expedition did much for the exploration of this part of Alaska and in making it better known to the world. The failure of the Atlantic cable in 1858 led the company to seek some other route for reaching Europe and an expedition was sent to see if a line could not be established across Bering Sea and Siberia. The successful laying of the cable in 1866 made such an attempt unnecessary and the work was abandoned. William Henry Dall, who was appointed to take charge of the scientific corps after the death of Kennicott, made exhaustive studies of the region and wrote voluminously of its geography, natives and other matters.

At present Nulato is but a small settlement of a few houses, stores, a native school and a telegraph station. Near Nulato the river narrows and bluffs appear, but as Kaltag, the next stopping place, is reached, the stream broadens and is dotted with wooded islands. Toward the east, mountains show on the horizon. Kaltag is the starting point of a winter trail across to Unalaklik, which shortens the route to Nome by five hundred miles. To the coast by this portage is some eighty to ninety miles whereas by the river it is six hundred. This trail is used

in the winter by all crossing to Nome and the Seward Peninsula.

For a long stretch now there are few settlements. The country is a great unpeopled wilderness, but this very loneliness and sense of the primeval lend a pleasure quite as enjoyable in its way as are the scenic and historic interests.

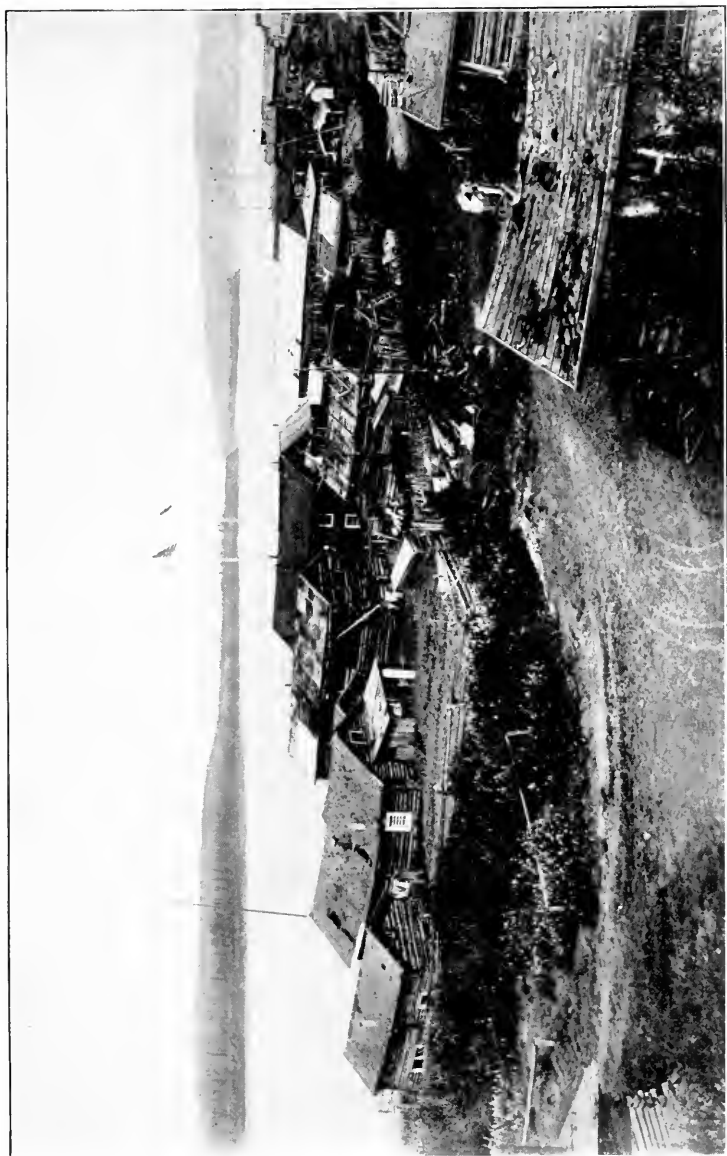
On this stretch of the river the Shageluk, sometimes spelled Chageluk, slough leaves the Yukon, wanders some one hundred and twenty-five miles almost parallel and empties into the river again below Anvik. The islands in the river which break it up into many channels make it difficult to discover the entrance to the slough.

Anvik, the next settlement of any importance, is rather attractively situated on a steep wooded ridge. A mission of the Episcopal church is here and the little native settlement, mission buildings and post office make a pleasing break in the river's monotony.

A low, timbered country with hills on the horizon is about all the section has to offer in the way of scenery now, together with the gradual broadening of the stream.

The next stopping place is Koserefsky or Holy Cross, the transfer point for the Iditerod country and a mission of the Roman Catholic church. This is quite one of the most prosperous missions on the river. The buildings are quite imposing and prettily situated near the river, the ground sloping upward back of them and covered with trees. There are a boarding-school with neat dormitories and pleasant schoolrooms, a church and flourishing gardens. The pupils are usually in uniforms, and the impression the little settlement creates is distinctly pleasing.

Farther down the river is the Russian Mission or Ikogmute. This was established in the early days, but conditions in Russia in the last few years have not been such as



A TYPICAL YUKON SETTLEMENT

to aid Russian mission work. Hence the little post is not flourishing. The Yukon in this stretch comes close to the waters of the Kuskokwim River. In fact the distance between the two is only about thirty miles. The land is low and there are many lakes so that a portage across is easy and the Russian traders and natives in the early days often crossed here between a post they had established on the Kuskokwim and this mission on the Yukon.

There is little of interest now but the width of the river, for it is no longer a river but a sea. Andreafski, the next settlement, has quite a tragic history. It was built by the Russians about 1853 and at that time consisted of barracks, a store, magazine and a few other buildings. A small Indian village was near it but the natives seemed in every way friendly. Two years after it was built, however, when a number of the garrison were away, the Indians fell upon the remainder and killed them. A little Russian creole escaped and carried the news to St. Michael. A party started from St. Michael bent upon revenge. They attacked the Indian village and in the most ferocious manner slew every one present. It is said that for many years afterwards the natives would not pass on the side of the river where the fort was, so acute was the memory of the barbarities of the Russian slaughter. The place is chiefly used now in the nature of a port, as there is none at the mouth of the river, and the steamers are harbored here for the winter.

The country from here is desolate. For a brief time a few low hills are seen, but soon all is flat and marshy, the land being but a few feet above the water. The Yukon spreads through a labyrinth of outlets into Bering Sea and is heavily laden with silt and mud. No doubt the land through which it here flows has been built by the earth it has brought and will continue to be built farther

and farther out into the ocean. Bleaching driftwood lies piled on the flat shores or is partly buried in the mud and adds to the dreariness of the scene.

From the mouth of the river a short run is made across St. Michael Slough to St. Michael.

St. Michael has few attractions, unless the wide sweep of water in front be one, or the historical interest that attaches to the place. It is a small settlement consisting chiefly of storehouses and a hotel, so called, for the accommodation of those waiting for boats. Those coming from the outside make connections here with the river boats and those coming down the river also change here to seagoing craft. As the arrival of all these steamers is uncertain it is necessary to provide accommodations. The steamship companies endeavor to make close connections, but travelling in Alaskan waters, whether coastal or interior, is extremely uncertain and sometimes there is a lengthy wait at St. Michael for the expected boat. There is no harbor, and ocean going vessels anchor a mile or so off shore and barges transfer passengers and freight to and from the land.

The settlement was founded in 1833 by the Russians and originally was called Michaeloffsky Redoubt. This location was chosen because it could be easily defended against the Indians. There is no growing timber on the island nor in the vicinity and the old Russian buildings were made of logs rafted down the river, hauled on sledges from the interior, or brought from Sitka or Siberia. The Yukon brings down great quantities of driftwood which is a boon to those living in the timberless tracts of this section for it answers for firewood and for building purposes.

From St. Michael the route to Nome lies across Norton Bay, an arm of Bering Sea. The steamer takes a direct

course across the water but the shore line bends in and on it are various little settlements. Unalaklik is one of these. This is the ocean end of the winter trail across from Kaltag. It is an Eskimo settlement principally. Bluff, on the coast some fifty miles from Nome, is a mining town, and at one time mining in the winter on the floor of Bering Sea was done near here. Shafts were frozen down until the bottom was reached and then the sand was hoisted.

This method of mining is unique, but as the floor of Bering Sea is believed to contain much gold, this plan for getting it was resorted to. A shaft is cut down through the ice until unfrozen water is reached. The cold air rushing in, however, soon freezes this water, when the shaft is again cut downward until water is once more reached. This process is repeated until a shaft with solid walls of ice is sunk to the sea floor. Then the sand is lifted and the gold sluiced out in the usual way.

The first sight that is apt to greet the gaze as Nome is approached is Sledge Island, a great upheaval of bare rock that lies like some giant, couchant animal in the roadstead. It was given the name by Captain Cook because of a sledge with bone runners that was found here. Grim and stark as it looks, it at times performs a friendly office. Nome has no harbor and when a storm comes up the vessels lying in the roadstead scurry for the lee of Sledge Island for protection.

To those visiting it for the first time, Nome, like Dawson, is a place of romantic interest. But if they came by the outside passage from Seattle and it is the first Alaskan town to be seen, it is apt to be a keen disappointment. For Nome, as the steamer approaches it, is not attractive. Viewed from the water, it seems to be a collection of

small, mostly unpainted buildings scattered in disorderly fashion along the waterfront and up over the tundra. But the situation is not without its pleasing lines and color, especially if the day is clear. Bering Sea sweeps in here in a gentle curve that runs for possibly thirty miles between two outjutting points, Cape Nome at one end and West Point at the other. In this little shallow bay lies Nome, the tundra climbing up gradually back of it to a low range of hills. Far inland can be seen the jagged peaks of the Sawtooth Mountains, sometimes snow covered. It is a gentle beauty with a coloring in low tones of slate and purple except when Bering Sea is a vivid blue and the peaks in the distance shine in a robe of pure white or when one of Alaska's glorious sunsets bathes the scene in a flood of red and gold.

Landing at Nome is an unique operation. The boat does not go up to a dock and the passengers walk off by the gang plank as is the usual method. There are no piers of this kind at Nome. There are large warehouses along the waterfront for the storage of merchandise, but the steamers themselves do not come within a mile and a half or two miles of the shore. Passengers and freight are taken ashore in lighters and small boats. If the water is smooth these are beached or tied up to the warehouse wharf. If the water is rough the landing is made at some distance from the shore on a small staging anchored in the sea. Passengers are then loaded into a sort of mammoth basket or cage and swung by cable high over the waves in and on to the dock. The experience is not without its thrills and is certainly new to many travellers. It is said that Snake River, which empties into the sea at the western end of the town, could be dredged and a good harbor made that would not only reduce the cost of getting passengers and freight ashore at Nome but make a



A STREET SCENE, NOME

safe harbor for the boats. The item of cost especially in regard to freight is great, for wages are high in Alaska. The need of a safe harbor is also imperative. Storms descend unexpectedly at Nome and vessels in the roadstead have no place to go for shelter except the lee of Sledge Island, which is not exactly the sort that cautious captains prefer.

Nome is not large numerically, but it has a number of modern, prosperous stores, several hotels, large warehouses, a number of churches, a good school and hospital and telephone and wireless service. Though out of the world geographically, it is by no means out of it progressively. It has many charming homes, and almost every little house has its garden where lettuce, radishes, cabbage, turnips and other vegetables flourish. And indoors and outdoors, wherever flowers will grow, are blossoms.

On what is called the sand spit, a stretch of beach between Snake River and the ocean, is the Eskimo village. One sees the natives here in all stages of progress, from the little bright-eyed youngsters who go to the native school and speak English, the courteous polite older boys and girls who have graduated from these schools, to the old men and women, bleary-eyed and dirty, who still cling to native ways of living and eating and are anything but pleasant to look upon. The village is a combination of frame houses, tents, racks upon which fish are drying, boats, dogs and smells. It is interesting, but not inviting. Here can be seen in great numbers the oomiak, the Eskimo boat made of skin. These boats are pictures of grace and lightness, and to see them as they are paddled away from the shore filled with Eskimos and their belongings on their voyage to winter quarters at Cape Prince of Wales is a picture long remembered. The helplessness

looking open boat, the bleak sea, the cheerless, desolate, hard winter life to which they are going, the unrepining courage with which they face it, all make a scene that stands out vividly in recollections of Nome.

The Nome shops are filled with the handiwork of the Eskimo, carved ivory, baskets, beadwork, moccasins. These natives meet you in the street with their wares, and with a smile and glance ask you to buy. They are a pleasant, friendly people given to but few words but their shy smile and bright eyes have greater selling power than language. Their carved ivories are monuments of patient, tireless industry and of no little artistic skill. Cribbage boards, paper knives, many kinds of small figures ornamented with fish, seal, and other animals with which they are familiar, are the most popular pieces. Some are made from old ivory, a soft, lovely shade of brown. But all as specimens of the handwork and artistic faculties of this primitive people are interesting.

Nome, like other Alaska mining towns, came into being with a rush. In July, 1898, a boat containing some prospectors on their way to Golovin Bay capsized at the mouth of Snake River. The men, after drying out, prospected a bit and found some colors, but not equal to the hopes they entertained of the Golovin Bay country, the reports of which had brought them to this section. Disappointment, however, met them at Golovin, and telling others of their find in the Cape Nome section, they returned. Many came with them and the strike that eventually made this section known to the world as a rich gold producing region was made in September on Anvil Creek near-by. Although the season was late, the ground freezing and snow falling, eighteen hundred dollars was panned and rocked out in a few days.

The news spread to other mining camps, and in the

spring of '99 miners came from even far away Dawson. The work so far was only on the creeks. But, so the story goes, one of these newcomers had scurvy and went to the beach to take the old time whaler's cure of sun and salt water. He employed his time in his free, open-air sanatorium in panning and thus discovered Nome's golden sands that brought a rush of men and women here from many parts of the world.

The beach was "No Man's Land," for the government had reserved the stretch between the sea and high water for wharfage purposes. No claim could be located on it, but it could be worked anywhere by any one. This lack of title or ownership led of course to quarrels and much disorder until the matter was taken in hand by a miners' meeting and the decision was made that each man should have to work as his own as much ground as he could reach with his shovel from the edge of the hole where he was digging.

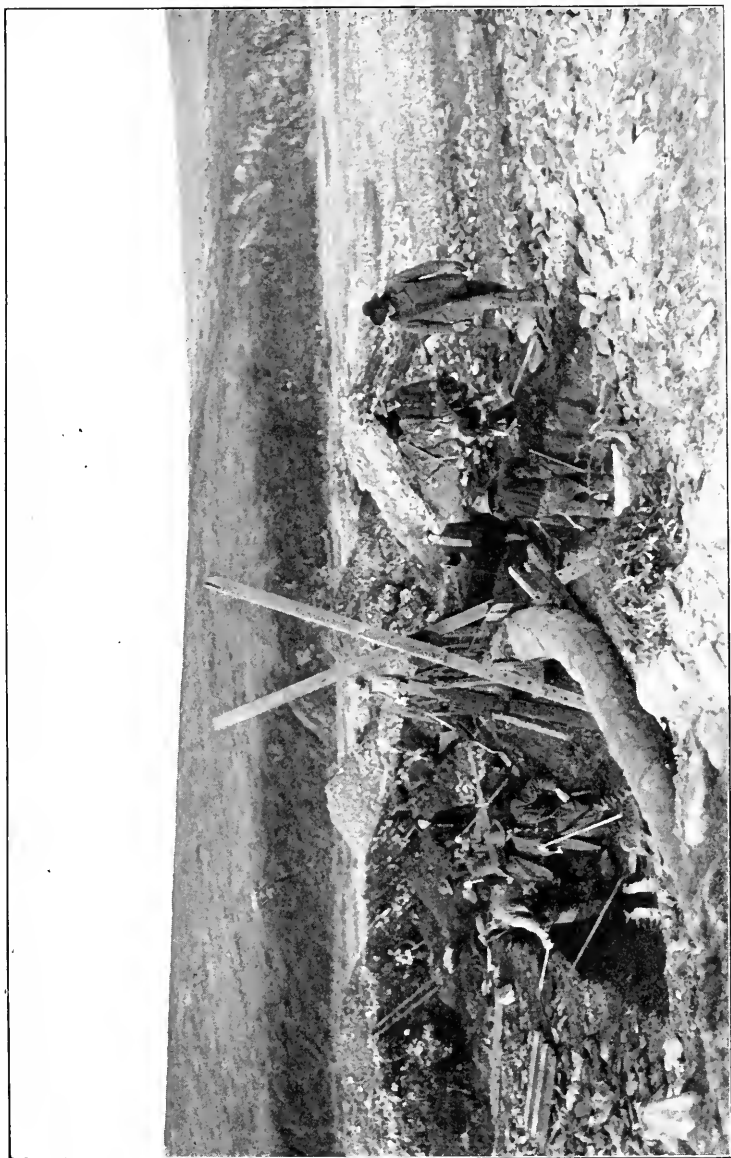
But the news of this public instead of private ownership of the land and of the fact that the gold could be easily washed out because of the abundance of water right at hand made many believe that fortunes could be made over night, and not only brought a tremendous number of people but they were in many cases less fitted both as to experience and supplies than is the usual stampeder to a gold camp. In contrast to this class were many who, because the gold was to be taken from beach sand without the necessity of digging shafts, clearing away rocks and mining in the customary fashion, had brought all sorts of strange devices for securing the gold more quickly than by panning or rocking.

As a result, within a few months fifteen thousand people with all sorts of machinery overflowed the place. The beach was a scene of inextricable confusion. There

were no wharves or docks and in among the workers and their contraptions were piled thousands of tons of freight. Far up the beach it was jumbled. Everything was in an appalling state of confusion. Machinery, all sorts of supplies, hay, lumber, grain, hardware, provisions, liquor, tents, stoves, pianos, sewing machines, mirrors, bar fixtures, anything and everything, was thrown here regardless of weather or damage. Transportation along the beach was by wagon and ten dollars an hour was exacted and a wagon could only haul a few hundred pounds at a snail's pace, or by launch, for which five hundred dollars a day was charged. To get one's goods out of this confusion and away to a place of storage was a slow and costly proceeding.

In some cases fortunes were quickly made. Two men rocking three days cleaned up nearly four thousand dollars. Gold to the value of two million was extracted in a short time. One man made quite a bit in an unusual way. He had shrewdly brought with him two dilapidated rockers which he had bought from Eskimos at St. Michael for twenty-five cents each. Lumber in Nome was scarce and many of the stampedeers had no rockers. Instead of working the beach himself he rented the rockers on a royalty basis of fifty per cent and in less than two weeks had realized almost three thousand dollars.

Of course the sands were soon exhausted and the miners spread back into the hills and out into other parts of Seward Peninsula and other gold discoveries were made. A few years later a rich strike was made near Anvil Mountain, a low peak a few miles from Nome and so named because a rock on its summit resembles an anvil. This find alone in one year yielded a million dollars. Most of the creeks in this section have made rich returns. A mining expert has said that within the range of vision



MUNING ON TUNDRA, NEAR NOME

from Anvil Mountain is a richer placer gold area than is to be found elsewhere in the world.

The region about Nome is now looked upon as one of Alaska's permanent gold areas. Both the individual miners and large companies are at work here, and when other developments come that will make mining a less costly operation than it is at present the output from this section will increase. Both dredging and hydraulicking are done and the headquarters of some of these companies are veritable little towns. The men are provided with neat, comfortable buildings for sleeping, with a big, well-lighted room for reading, writing and recreation. There are messhouses, storehouses, and buildings for the machinery. To come upon one of these places hidden in a hollow or on the banks of a little creek on the lonely, desolate tundra seems like going at one step from the primeval wilderness to the heart of civilization.

A problem that complicates mining in this section is the lack of water. The creeks are small and in summer often dry up. Snake River and Nome River, the two largest streams, are limited in the areas they can serve. It is impossible to mine without water. The large companies have built ditches to bring water over miles of tundra from the mountains. It takes capital to do this, and so the small companies and the individual miner if they cannot buy water are hampered in their work and their output much curtailed.

Gold has been found in many other sections of Seward Peninsula. At Solomon to the east of Nome; at Council about eighty miles to the northeast in the interior; at Teller, on the coast to the northwest; at Candle, across the peninsula to the north on Kotzebue Sound, an inlet of the Arctic Ocean, at all these places the precious metal has been discovered.

Teller has a good harbor, about the only good natural harbor on the northern coast of Bering Sea. Teller is, as well, the gateway to the Kougarok and Bluestone districts, in both of which gold has been discovered. It is a picturesque place. On the right is a long, low sandspit and on the left the Cape York coast, where a bare, rough range of hills that drop off into Bering Sea mark the end of the great Rocky Mountain system of the western continent.

The discovery of gold at Candle is due, legend says, to the ghost of an Indian who sat or stood, data are not exact, on the prow of the prospector's boat who found the gold and directed him where to go. Whether the prospector saw the Indian's spirit or not no one can tell, but it is known that he put out into Bering Sea in an open boat, steered through Bering Strait into the Arctic Ocean, thence into Kotzebue Sound and made a strike where other prospectors had been several years before and found nothing.

Some of these districts on the Seward Peninsula have proven very rich. One claim near Council yielded three tons of gold. Just what wealth this section of Alaska holds, however, no one can say. Mining at present here is under too great handicaps to reach its fullest development. There are no railroads at present. There are practically no roads. Near some of the towns there is a short stretch of government road. The rest is tundra. Tundra is a bog, a wet, mushy place of hummocks or "nigger heads" and black muck. In this horses and wagons mire sometimes every few yards. Transporting supplies over it is a long and costly process. Much of the hauling, therefore is done in winter over the snow. But all supplies must reach Nome in the summer, therefore, if freighted in winter to the camps, they must be stored and thus handled twice. The cost of this in addition to the

cost of landing, due to the lack of harbor facilities, makes mining an extremely expensive industry in the Seward Peninsula. Quartz ledges have been found and their development will no doubt become one of the permanent industries of the section when the cost of mining is lowered.

Other minerals have also been discovered. Among them tin is noteworthy. The tin deposits are said to be very rich. Silver and coal have also been located.

All these mining interests look to Nome as the central point for their supplies and their means of communication with the outside world. This makes the town a bustling little place. Small steamers go up and down the coast carrying provisions to the settlements along shore. Freight teams wind in and out over the tundra hauling goods to near-by camps. In the outskirts, even at times in Nome itself, dredges are working. A few years ago right on Front Street, Nome, a dredge was scooping up the earth, washing out its gold, and leaving the débris in unsightly tailings along its course. The big warehouse companies are busy receiving and shipping goods. For all Nome's business must be done in a few short months. The first steamer arrives in the early part of June, the last one leaves in October. Between these two dates the business of the year with the outside world must be crowded. In October the ice begins to come down from the north. At first a few floating cakes are reported. Next the sea takes on a mushy look. Then some morning, Nome awakes to find itself locked in the arms of a sea of ice, and communication with the outside, except by wireless or dog team, is cut off till spring.

The winter season is not a dull time in Nome. Shut in as the people are and dependent upon themselves for enjoyment, the townspeople are like one big family. All

sorts of entertainments are given, and there are few days without some diversion to enliven them. The great event of the winter is the Dog Race, the Alaska Derby, as it is called, held under the auspices of the Kennel Club. For the unexpected and exciting and as a test of speed and endurance it is doubtful if it has its equal in any sport in the world. Over hundreds of miles of snow-swept wastes the route lies, between towering ice hummocks on Bering Sea, over wide plains of unbroken snow, up and down steep hillsides, through desolate valleys where the fierce north wind, laden with fine particles of ice and snow, sweeps, over trackless and treacherous ice of rivers and lakes. Nowhere else does the world know such a race course.

The number of dogs in the team is optional, but between ten and twenty is the average, and, to prevent cruelty, the ruling is that every dog with which the team started out must be brought back dead or alive. The sleds are made of hickory lashed with reindeer sinews and walrus hide. The only equipment is an assortment of furs and water bottles for the men, canton flannel moc-casins for the dogs' feet, dark veils for the eyes and blankets for use in case the wind is keen.

The dogs are not driven by rein but by spoken order, and an intelligent leader is a prime necessity. The driver rarely sits on the sled but runs behind, jumping on and off the runners and pushing when necessary.

The drivers can use their own discretion as to the number and length of stops, one of course being stipulated at Candle, the end of the first half of the race, where the teams are examined and checked up by the judges. When resting the dogs are rubbed with alcohol and fed and bedded before the men attend to their own needs.

The food is distributed by the commissary team con-

trolled by the club, and is so divided into separate allowances that no time is lost in preparing and allotting it. Through the year the dogs are fed on a general diet of rolled oats, dried salmon, household scraps and the flesh of the white whale. But during the race they are given chopped mutton and beef mixed with eggs.

The purses are from ten dollars to three thousand and the course is to Candle and return, a distance altogether of four hundred and twelve miles. Although the race is indulged in as a sport and is one of the eagerly-awaited events of the season, it has its utilitarian value. The desire to win the race leads to efforts to improve the breed of dogs, and helps instil greater intelligence and humanity in the dog users. These results have become so marked that Nome dogs have become famous and many Arctic explorers when they need dogs for Arctic travel send to Nome for them.

The summer visitor to Nome does not, however, have an opportunity to see the dog race, though he will hear about it, see pictures of the winning team, and perhaps see some of the dogs themselves. Nor does he have a chance to take a sleigh ride behind a dog team, another favorite winter diversion. But he is not cut off altogether from dog travelling. He may get a chance to go out to the creeks by the "pupmobile," or he may get a ride in a boat drawn by dogs. Both are exhilarating.

The pupmobile is a flat car drawn by dogs that runs on a narrow gauge track out over the tundra, to some of the creeks. This mode of travel is a swift if somewhat haphazard proceeding. The dogs seem to look on it as a grand frolic and tear along at a mad pace. If a car is seen coming in the other direction, one removes his car from the track while the other passes. Sometimes when going down hill the dogs are loaded on the car.

The trip by boat is quite as exhilarating. The boat itself, if the work of natives, is worth study, for it is usually a beautiful bit of workmanship. It is of driftwood fastened together with leather thongs and covered with skin stretched so carefully and sewn so well as to be watertight. It is light yet staunch and skims the water like a bird.

You step in carefully, for a boat of skin, no matter how taut, seems frail in comparison with the wood and steel craft with which one is familiar. The Eskimo runs it out to where the water is sufficiently deep and climbs in. All this time the dogs sit idly by as if not concerned at all with what is going on, but the moment the boat reaches water in which it floats and swings around parallel to the shore, they spring into harness, the tow-line connecting them with the boat becomes taut and they start off down the beach. The Indian in the bow of the boat keeps the line steady, raising it when necessary to insure clearing driftwood, while the man in the stern steers the boat just outside the edge or wash of the breakers.

The voyage resembles the flight of a sea gull more than a boat trip. One moment the little craft is lifted on the crest of a wave with what seems the certainty of its being dashed to pieces on the beach or rocks. The next minute it is down in the trough of the sea with nothing visible but the waves and the leather thong connecting it with the shore. Up it comes again, this time perhaps riding high above the dogs with the tow-line clear of the water, and one seems to be flying through the air. Nothing is heard but the splash of the surf and the occasional shouts of the Eskimos. You are twice glad on this trip, when you start and when you stop.

About sixty miles back in the interior from Nome is Hot Springs. If one has not yet seen any of Alaska's hot

springs, a trip is worth while. It will seem more novel here perhaps than elsewhere, for the change from the vegetation of the tundra to the green, luxuriant growth here affords more of a contrast than it does in some other places in Alaska. Lettuce, celery, mushrooms and many vegetables flourish almost as well here as in a tropic garden.

CHAPTER XV

LITTLE KNOWN REGIONS OF ALASKA

THE ARCTIC PLAIN EASTWARD FROM SEWARD PENINSULA. THE KOYUKUK REGION. THE CHANDALAR, KOBUK AND COLVILLE RIVERS. THE KUSKOKWIM COUNTRY. ITS AGRICULTURAL POSSIBILITIES. IDITEROD AND ITS MINING INTERESTS.

Two large regions of Alaska are as yet little explored. One of these is the great Arctic plain stretching eastward from the Seward Peninsula to the Canadian border and from the Yukon River to the Arctic Ocean. At a rough guess this vast region comprises about one-third of Alaska, yet it is comparatively unknown. A few Arctic explorers have been over it. The Boundary Commission crossed its eastern end. Prospectors have partially penetrated it northward from the Yukon. But, in the main, it still remains a great unknown territory, fascinating because of the very mystery that enshrouds it and the secrets it holds in its bosom.

Though more difficult to explore than some parts of Alaska, it has its advantages. Supplies can be taken easily and in quantity to its very threshold. Game is abundant. In fact one scientist who has made the trip across it says there is sufficient game, wild vegetables and berries to sustain life and that he could travel all the way from the Yukon to the shores of the Arctic Ocean with nothing but blanket, matches, gun and axe. Vilhjalmur Stefansson has said, "I have demonstrated that civilized man can live on the products of the Arctic, having on one

occasion been two years away from supply ships and living as an Eskimo."

The prospector, however, is the one who has chiefly invaded this region. Nothing daunts him when in search of gold, and from time to time reports of the discovery of gold in this section have come out and miners have made their way thither. Tiny mining settlements and cabins of lonely miners are scattered here and there through it, but the mining is done on a small scale and in the most primitive fashion. To the miner with limited funds and who cannot spend his time hunting, the cost of getting in supplies for a stay of any length or of bringing in machinery for mining in any extensive fashion is prohibitive.

Several fair-sized rivers find their way through the territory and afford the easiest and cheapest means of transportation for goods. It is on these rivers that the few settlements are located and on them and near-by creeks most of the mining is at present being carried on.

The largest of these streams is the Koyukuk River. This is some seven hundred miles long and navigable for a considerable part of the distance. It empties into the Yukon at Nulato and here boats are taken for the journey up the stream.

The trip on the lower part of the river is monotonous. The current is slack, the channel winding. The shores are densely wooded, islands dot the water and a lonely, dilapidated cabin here and there gives a note of desolation. Gradually the banks grow rockier, mountains begin to appear and the current gets a bit swifter. In one place are rapids to which the miners making their way up the river in small boats have given the expressive name of the "Measly Chute." At Allakaket, one of the

principal settlements, is a high bluff from which extends a plateau. In the old days this was a meeting place for the Indians for trading purposes. This high, open, flat stretch was chosen as it prevented ambuscades, proof that the natives had no great confidence in each other. From here onward the navigation becomes increasingly difficult as numerous bars and sloughs appear. At last Bettles is reached, practically the head of navigation and the chief settlement of the river.

The town is the usual little mining community of log houses, a few stores and other buildings. Back of the town rises Lookout Mountain, so called because from its top can be seen the first steamboat on its way up the river in the spring, an event as eagerly awaited as is the first boat at Nome when the ice breaks up. For this little settlement, like Nome, is cut off from the outside world in winter except by dog sled, and as it has practically no business interests to bring travellers, its visitors are few. Because it is so dependent upon itself, it is said to be one of the most hospitable camps in the North. Newcomers are more than cordially welcomed, and any one coming who is in hard luck is told to take a pan and go out and help himself.

From Lookout Mountain can also be obtained a good view of the surrounding country, which is somewhat timbered with spruce. Lakes gleam here and there in the green setting and to the north can be seen the peaks of the Endicott Mountains. These mountains form the watershed between the rivers on the south and those that flow into the Arctic Ocean. They are broken by broad passes and have many valleys. Some of the peaks rise to a height of from seven to nine thousand feet.

The region is not by any means unattractive and would well repay in picturesque scenery, in the pleasure of fish-

ing and hunting, and the zest of exploring the unknown, a summer's sojourn.

Beyond Bettles freight and supplies are sent on by horse scows. These are large flat boats with an interchangeable propelling power of gas engines and horses as the current permits.

To the northward from Bettles, the river divides into various forks. On the Middle Fork the scenery is quite picturesque. The river passes through a canyon, the channel is narrow, the banks steep, and here and there in the stream are detached rock masses that have been eroded into the semblance of various human figures. One of these, because of its likeness to a bishop in his vestments, has been called Bishop's Rock. Another has been called the Squaw Rock from its resemblance to an Indian woman.

On this fork is Coldfoot, said to be so named because the miners who had come this far into the wilderness became timid about going farther. It lies at the base of a circle of rugged peaks and is little but a roadhouse, a few stores and cabins. It is the centre of a small mining region, gold having been discovered on several creeks in the neighborhood. It claims to be the farthest north gold mining town in the world and is at any rate the most northerly postal station in this part of Alaska. It has not the prosperity of its earlier days. The gold is not panning out as richly as was expected and the cost of mining here is much greater than in almost any other camp in Alaska. It can also be reached up the Chandalar and thence by portage. But whichever route is chosen, the journey means much rehandling of all supplies brought in the summer by boats.

Across a short portage from Coldfoot are the upper waters of the Chandalar, another stream of this region

that has its lure of gold and, as a consequence, a few mining camps. The name is said to be a corruption of *Gens de Large*, a title given by the Hudson Bay Company to a tribe of Indians who had no permanent village but lived in encampments along this stream. A lake to the eastward still retains this name.

The Chandalar empties into the Yukon near Fort Yukon and is navigable at its flood season a short distance for light draught boats, though such navigation is no easy matter. The banks are wooded, and as the river is ascended the scenery grows more attractive. The current is shallow and swift. Here and there are rapids, and mountains three to six thousand feet high appear. The river has several forks but the whole section of its northern courses is hilly. This region is a quartz country but has not been worked owing to the cost of getting in machinery. There are a few small mining camps along the river and its branches. The chief settlement is Caro.

Of the rivers that empty into the Arctic the Kobuk is perhaps the best known. Its waters flow into Kotzebue Sound, an inlet of the Arctic Ocean.

The Kobuk is a large stream said to be about four hundred miles long. The name is an Eskimo word meaning "Big River." It rises in the mountains near the headwaters of the Koyukuk and a glance at the map will show that in its westward journey to the Arctic it covers a long stretch of territory.

This region in many parts is mountainous and wooded and the upper courses of the stream are picturesque. Game and fish abound. But as the river nears its outlet, the country is desolate, barren and much like that of the lower stretches of the Yukon.

Not only has gold been found throughout this section

but rich specimens of silver and copper have been discovered. Some have assayed phenomenal values, the copper in particular showing as high as eight-seven per cent. There is also said to be coal here, and what is almost unknown in Alaska, jade. Jade Mountain is in this section where in times past the Indians gathered this mineral for tipping their arrows. With the coming of more peaceful days they now make it into ornaments.

The Colville River is the farthest north of all these rivers and flows northward directly into the Arctic Ocean. It is a wide stream with a strong current and at its mouth spreads out like most Alaska rivers over a wide reach of flats where stranded icebergs sparkle in the sun, in summer. In winter it is a region of ice hummocks and gray dreary gloom.

The valley through which the river flows is from fifty to a hundred miles wide and is hemmed in by low barren hills.

In this region coal has been found by the few prospectors who have visited it, and petroleum is said to be here also. Float coal has been picked up and used by the prospectors for their camp fires. Stefansson also speaks of finding coal in this Arctic region, though his explorations were farther to the eastward in Canadian territory.

Just what the future of this great section of Alaska will be no one can venture to guess. If the coal and oil could be developed they would help marvellously in opening up the country, and would be useful also to the whaling vessels and to the few other boats that venture into the Arctic in these regions. But such development does not seem at all probable. These treasures will most likely remain locked in these Arctic regions until economic pressure makes their use inevitable. Then railroads will be built through the trackless wilderness, and

these stores that have been reserved for this time of need will be poured forth.

The second large region of Alaska that is as yet little explored is the area extending westward from the Alaska Range to the Yukon River and from Bering Sea to the Tanana River. It is spoken of in a general way as the Kuskokwim country, and, roughly speaking, composes about one-fourth of Alaska.

It is not so inaccessible as some parts of Alaska that have been more largely developed. The Kuskokwim River, the second largest river in Alaska and navigable for some five hundred miles, penetrates it. The Kantishna, a stream that empties into the Tanana River, can be ascended for some distance and the region approached in this way. The country can be reached from the Yukon by way of Iditerod, and passes through the Alaska Range permit entrance from the east. Nor is it a barren, uninhabitable country. Though game and fish in some parts of it are not so plentiful as in some other parts of Alaska there is sufficient to sustain life. Wild berries abound and the forage grasses for horses grow luxuriantly. Yet it has been little explored and scarcely at all developed.

This condition is probably due to the fact that no rich gold strike has been made here, for in Alaska it is the prospector whose finger records the pulse of its development. Let him make a good strike and the world flocks to the door he has opened. Let him report no prospects and the section remains neglected.

Yet the Kuskokwim country is said to have rich resources by those who know Alaska, and it is believed by these that it will become one of its most prosperous regions. "I never saw a more beautiful sight," enthusiastically said a prospector who had been through there, "than the view that met my eyes when I crossed the

mountains and came out on a point where the great Kuskokwim valley stretched before me. It was magnificent. Some day that will be a fine farming country."

The Kuskokwim River has its source in three forks that rise on the western slopes of the great Alaska Range. There are also other rivers and streams here that are tributary to it, so that the region is one of valleys, some broad and fertile, others narrow and hilly, and of swamps and flat marshy country. After these streams unite, the Kuskokwim flows through a broad definite valley with rounded, level-topped low mountains. The scenery is not unlike that of some parts of the Yukon. Farther down the mountains draw nearer, the valley is narrower and some high, isolated peaks covered with snow the year through, show. At places the river bluffs are from five to six hundred feet high and from them stretches a broad upland plateau. At Kolmakof, a Russian settlement, the river is nearly a mile wide and has an unobstructed channel, with islands here and there covered with willows and alders. Farther down the low flat tundra appears with small swampy lakes in its expanse. For a long distance above the river mouth not even a tall bush is to be seen. The whole region is a level swamp covered with a few feet of peat.

It is in the valleys, the broad valley of the Kuskokwim, and the small valleys of the other streams, that the agricultural and grazing possibilities of this great region lie. The summers are warm with but little rain. The winters are clear with but little extreme changes or heavy snows. In the valleys it is believed all kinds of vegetables can be grown, though the soil will have to be thoroughly worked and fertilized. Wild berries, native grasses shoulder high suitable for cattle, spruce, birch and poplar are all found here. In the small mining set-

lements vegetables are already being raised. At one of these places several acres have been cleared, and one season more than six tons of potatoes were raised, which were sold at a good price to the miners.

In regard to the native grasses, a member of a government party that came through here to survey said that in no locality in Alaska had he seen such a luxuriant growth of native redtop grass, and he is a man who knows Alaska well.

In some of these valleys and on the hillsides, this same surveying party had to cut through miles of dense intertwined alder thickets. In the central Kuskokwim valley is a good growth of spruce and birch. This grows in little groves with grass about instead of underbrush and gives a pleasing parklike aspect to the scenery. The spruce is different from the usual spruce of the interior as it has branches that grow to the ground and is more dignified and impressive than its smaller sister of the Yukon region.

Gold has been discovered on some of the streams and about \$500,000 mined. Coal is also found. Prospectors say they have picked up enough in stream beds for their camp fires. Copper and cinnabar are also among the minerals of this region. The cinnabar is found at various points along the river, the chief deposit so far being near Kolmakof in a cliff on the river bank. But the region is so large and as yet so little known that what its resources are no one can state.

The discovery of minerals has brought a few settlements. These newer settlements are on the upper river and are little more than mining camps. On the lower river, however, are some that date back to earlier days. In 1832, Lukeen, a Russian creole, with a party of natives built some log houses on the river at a point quite

a distance from its mouth, the little settlement becoming known as Lukeen's Fort. Eventually it was burnt, but some years later other Russians came and the place was rebuilt and named Kolmakof for the leader of this later expedition. It is therefore the oldest settlement on the river and important of its kind.

Farther down the river is Bethel, an Indian village with a mission of the Moravian church. This, too, is of a permanent character, and though not large is of help in developing the country.

Westward from the Kuskokwim River to the Yukon is the Iditerod country. There is more development here than in the Kuskokwim region because gold was found here in 1906 and for a time hopes were entertained that this would prove another of Alaska's rich placer sections. Miners left their claims on the Koyukuk River, on the creeks around Fairbanks, on the Tanana and upper Yukon, some coming even as far as from Fortymile and Dawson. Nome, too, was not without its excitement at the news, for the tale of a strike in Alaska is like a stone thrown into water. The circle spreads until it penetrates little camps far on the outskirts of the wilderness and the news is discussed in log cabins and tiny settlements and, singly and in groups, miners can be seen mushing to the new discovery, or if it can be reached by boat, crowding the steamers to be among the first arrivals.

The Iditerod and its contiguous territory the Innoko region, in which gold was discovered about the same time, were no exceptions, although there was no such rush as to Dawson, Nome or Fairbanks for the finds were by no means so rich. But the element of uncertainty that enters into a gold strike is part of the lure. Nobody knows what may be found and so the stampedeers come, hoping that this is the time they will strike it rich.

“One more trip for that golden treasure
That will last you all your life,”

is the siren song that ever sounds in their ears.

As the result of the rush, Iditerod City sprang into life with the celerity of the usual mining town. The buildings were mostly frame instead of log as there is little timber in this part of the country. As has been the case with most of the mining towns of Alaska, a fire destroyed the little place shortly after it was built. But with customary Alaskan spirit, it was quickly rebuilt, and to-day though small still maintains its existence in this little frequented part of Alaska.

Iditerod and the towns near it are reached in summer by boats up the Innoko River from the Yukon. The country has few attractive features, being low and flat in its first approaches from the Yukon. Gradually it grows a bit more rolling in character and low mountains show on the horizon. The region is, in the main, treeless.

The town was laid out with a little more regularity than the usual mining settlement, for its few streets are parallel and intersect each other at right angles. The buildings are small. Most of the timber for their construction had to be brought in which made building costly and so size was cut to the lowest possible dimension.

About seven miles from Iditerod is Flat City, another small settlement that grew from the discovery of gold on Flat Creek. It is much the same as Iditerod in appearance and a horse tramway run on wooden rails connects the two. Dikeman and a few other little mining camps are scattered through the section. Some dredges have been brought in as the ground scarcely yielded sufficient returns to make the more primitive methods prof-

itable. With cheaper methods of operation, however, fair returns could be secured.

When the survey for the government railroad from Cook Inlet northward was made, a party was sent into this Kuskokwim region to report on a route through to Iditerod and the Yukon with the possibility sometime of its going on across the Seward Peninsula to Nome. Quite a practicable route was discovered, and no doubt in time such a road will be built and this vast region with its resources opened to development. At present supplies can be brought in only through Bering Sea and the Yukon, which are open only for a short time in the summer, down the Yukon from White Horse, down the Tanana from Fairbanks, or else over a winter trail through the Alaska range. All these routes are roundabout and costly. If a direct service could be had through Seward, an ocean port open the year round, and then by rail, this section would soon show a vast change.

CHAPTER XVI

SITKA AND ALASKA'S HISTORY

HOW TO REACH SITKA. ITS BEAUTIFUL ENVIRONMENT. THE MEETING OF THE OLD AND THE NEW IN THE TOWN. THE GREEK CHURCH. THE GOVERNMENT EXPERIMENTAL FARM. THE SHELDON JACKSON SCHOOL. BEAUTIFUL LOVERS' LANE.

SITKA, a gem of rare scenic beauty and a place about which centres much of Alaska's history, is off the regular route of travel. Steamers returning to Seattle from Cordova and other points to the westward sometimes make a stop at Sitka. Some of the boats to Skagway from Seattle take the place in, either going or coming. But if one wants to make sure of a visit to Sitka, he must carefully plan his itinerary to include it. He cannot take it for granted that his steamer will stop there. It is wisest to make definite inquiries and to be sure he is on a steamer that not only usually but on this specific trip will make this point. If one intends staying either at Juneau or Skagway for a summer holiday, small launches can be secured for a special trip and this is one of the most delightful ways to go, as many places can be visited that could not otherwise be seen.

The scenery en route to Sitka, whether he comes from Cordova or from Juneau or Skagway, is among the most magnificent of all the Alaska coast. This is particularly true if he comes from the westward. The journey has all the beauty of winding waterways and wooded shores, and, in addition, it has the spectacle of the St. Elias range of mountains sweeping up almost from the coast into

peaks twelve thousand, fourteen thousand and sixteen thousand feet high. Clear cut and sharp against the blue sky these peaks stand, robed in snow from base to summit. Tremendous glaciers wind down their sides, for this is the region of the great glaciers of Alaska. It is here that Malaspina Glacier sends its great ice wall down to the ocean. And when the open waters of the Pacific are left behind and the steamer threads Icy Strait and Cross Sound, Glacier Bay is passed where is Muir Glacier, not merely a stream of ice winding down a mountain-walled valley like the Swiss glaciers but a broad undulating prairie of ice. Some of its tributaries alone are from ten to twenty miles long and two to six miles wide. The largest of the Swiss glaciers is only sixteen miles long and about a mile wide, so that the magnitude of this sheet of ice in comparison can be imagined. There are two hundred tributaries large and small of the Muir Glacier, and it is estimated that it probably contains as much ice as all the eleven hundred Swiss glaciers combined. Neither this nor the Malaspina Glacier can be seen from the steamers but they can be visited in small launches, which is why these special trips are so unusually delightful.

Icy Strait is itself a glorious scene. Blue waters stretch to shore lines of low, green hills and then above these tower the great mountains, peak after peak in the sublime beauty of majestic height and purity, a mighty host and as spotlessly white as if painted. The name was given because of the ice that breaks off from Muir Glacier and floats out to sea here.

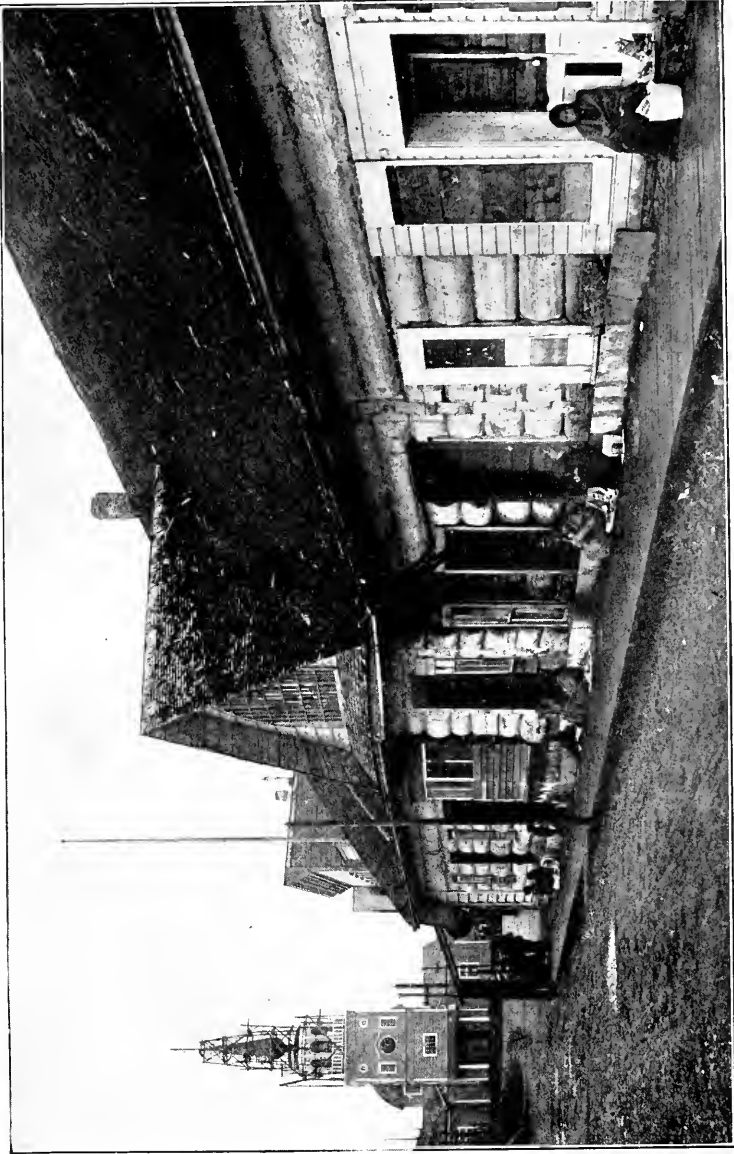
All the names hereabouts are interesting either because of their fitness or by reason of their historic interest. Cross Sound, which adjoins Icy Strait, was so named by Captain Cook because it was discovered on the third of

May which is marked on the calendars as the "Finding of the Cross."

As Sitka is approached the scenery grows more beautiful. Every nook and corner has its charm. A small cove into which the steamer turned for a stop at a salmon cannery was a scene of unusual loveliness. From one end of the boat the water, green as jade, stretched to a curving beach, beyond which lay dense spruce forests. Over the tops of the spruce trees rose a cone-shaped mountain and beyond a great snow range. From the other end of the boat the water swept away blue as turquoise to distant green hills and beyond these again towered snow mountains. At the water's edge wherever a foot of soil permitted were masses of rosy fireweed.

Amid such scenes of beauty the steamer winds its way through narrow channels with tiny buoys surmounted with little red caps to mark the route. Point after point reaches out as if trying to block the passage, but the steamer slips around them and at last Sitka Harbor itself is reached. The water here is dotted with innumerable islands crowded with green, slender-tipped spruce. The shore line beyond curves in a delicate crescent and behind the little cluster of houses and the green trees rise snow capped peaks, among them Mt. Edgecumbe.

The town itself is an interesting and vivid contrast of the old and the new. On one hand are the most modern of canneries with all the quick, deft machinery for cleaning and packing and sealing its products in the most efficient manner. In contrast are old monastery buildings, crumbling log houses and totem poles telling of the myths of a primitive people. One sees in the Indian village natives still living the life of primitive times. And at the other end of the town in the fine school established by the Presbyterian Mission Board are happy,



A STREET SCENE, SITKA

clean, bright-eyed Indians in the garb of civilization making furniture, cultivating gardens, busy in all the occupations of the progressive world of to-day.

The town though it has little regularity of streets does not have the jumbled, disorderly appearance of many Alaskan towns thus laid out. The streets wind in pleasant curves along the shore front or back over the hills. The houses are placed where it best suited their owners. But there is no sense of crowding and there is a charm of greenness and neatness that leaves a refreshing memory as if life is lived here graciously and leisurely.

Sitka has several places of keen interest for the visitor. Perhaps the one that calls most loudly is the Greek church whose golden cross and green dome stand out above the other buildings.

A caretaker shows tourists about, a pleasant, low-voiced man of few words who displays a restrained but pardonable pride in the relics and a certain tinge of scorn for the irreverent curiosity of the sightseers.

The church inside though crude in construction is rich in color. One can easily imagine the joy the splendor-loving Russians must have felt to step from the green wilderness outside into this scene of richness redolent with its memories of their native land.

The walls are decorated with many oil paintings of the Annunciation, of saints, of ancient Bible characters, of angels and archangels, all rich and soft in coloring and well executed. Many of these paintings are more than a hundred years old. Some are believed to be more than two hundred.

The altar stretching across one end of the church is rich with gold and silver and the soft glow of lovely colors in canvases of the Madonna and Child, St. Michael, the Angel Gabriel, the Last Supper and similar subjects.

Many of these are overlaid with gold or silver. Some are of carved ivory overlaid with gold, some are of hand-hammered silver. Tall candlesticks richly decorated in colors or with fine beadwork, superb banners, a mass of rich embroidery, add to the sumptuous effect. It is a feast of color, of good paintings and fine handwork that one does not expect to find in this out of the way corner of the world.

One painting in particular arrests the eye, a canvas of the Madonna and Child. The sweetness of expression, the delicacy and softness of coloring, linger long in memory. Some artist has put his soul into this canvas, and though his name is forgotten, his work endures as a lovely picture of the ideal. Mr. Pierpont Morgan offered \$25,000 for it, so desirous was he of adding it to his collection. But the Russians love their church and all it contains. Money is no temptation to them.

There are handsome chalice cloths richly embroidered in gold and silver and in colored silks in quaint, little-known designs, or in rich, intricate beadwork. There are priests' robes stiff with their gold and silver embroidery, and marriage crowns and bishops' mitres glittering with jewels. When the visitor comes out of the church and sees the grass-grown streets of the quiet little town, the sagging, moss-covered roof of the old log trading post, the steamer at the dock, the cannery humming with its modern machinery, he feels as if he has been far away from this scene, glimpsing the religious longings and the artistic expression of a distant people and another time.

As has been said, Sitka is a place of contrasts. As one leaves the church and wanders on up the street, a neatly lettered sign directs to the government experimental farm whose neat buildings and thrifty-looking fields can be glimpsed through the trees. Sitka is the head-



“MADONNA AND CHILD,” IN THE GREEK CHURCH, SITKA

quarters for the experimental work the United States is doing in agricultural ways for Alaska. The chief of the bureau has his home here and several acres of ground are under cultivation.

The Old Pioneers' Home is at Sitka where Alaska's pioneers are cared for by the Territorial government. The first Alaska legislature enacted a law for the establishment of this home for aged prospectors and those who have spent their years in Alaska assisting in opening and developing the Territory and who have become incapacitated for further physical labor and are dependent.

The buildings are pleasantly situated facing the harbor and were those formerly occupied by the United States Marine Corps. Many improvements and additions have been made including a hospital and cottages for the isolation of contagious cases. A physician and a corps of trained nurses are employed. The management and control of the Home are vested in a board of trustees consisting of the Governor of the Territory and two citizens appointed by him.

Another place of interest is the Sheldon Jackson School for Indians. At one end of the town is the Indian village, at the other end, the school; and if any one wanted proof of the value of such work for the natives the contrast between these two places would give it. The village is better in many respects than some Indian settlements, but even so, the contrast between the Indians here and the happy, clean, neatly dressed natives at the school is marked.

The school is the outgrowth of the Presbyterian mission work in Alaska. It was first known as the Sitka Mission School, but in 1911, upon the completion of the new school plant, the name of the Sheldon Jackson School was decided upon in honor of the pioneer explorer, edu-

cator and missionary. A mammoth rock on the shore at the approach to the grounds bears a bronze tablet upon which is inscribed,

SHELDON JACKSON SCHOOL

Dedicated to the memory of Sheldon Jackson

1834—1909

Pioneer missionary, explorer and educator in the
Rocky Mountains and Alaska

“And in every work that he began, he did it with all his heart.”

II. Chronicles, 31:21.

The school buildings are pleasantly situated in a little amphitheatre of green grass hemmed in by the woods and with the island-dotted harbor in front. They are mostly simple, brown-shingled structures that fit restfully into their environment and include dormitories, cottages, residences for the teaching corps, a steam laundry, printing shop and other industrial buildings and a museum. There is a modernly equipped gymnasium with shower baths and lockers. The pupils make many articles of furniture used on the premises, do beautiful work in brass and copper, and in their printing plant do much of the commercial work needed by the residents of Sitka.

Aside from its interest as part of the school, the museum is in itself a noteworthy contribution to the attractions of Sitka. Here are collected many things that have to do with the early Russian occupancy of Alaska as well as curios of Indian life and legend. A small pipe organ is here that was brought from Russia in the early days; Russian trading beads made in Bohemia by hand especially for bartering with the Indians; and two dainty, miniature-like cuff buttons, picked up in an old Russian house to the westward. One tries to con-

jecture what the persons whose sweet faces are here portrayed thought of the new life and country to which they had come, or decides perhaps that these pictures are portraits of dear ones left behind. Russian bricks, copper tea kettles, shears from St. Michael with great, curving handles, a picture of the famous Russian missionary Veniaminof, bells cast in Alaskan foundries, all these things and many more give a kaleidoscopic picture of the life that throbbed so busily on these northern shores a hundred years and more ago.

The museum is even more liberally supplied with memorials of Indian life. There are the quaintly decorated wooden chests which lovers of Indian handiwork always so desire to possess, fine specimens of Chilkat blankets, masks used in war and potlatch dances, belts made of caribou teeth. There is a ladder fashioned by cutting steps in the trunk of a tree, and an anchor composed of a heavy stone with one end fitted with a crude wood casing to which a rope could be attached, and other articles showing the ingenuity of these primitive people. One can read many pages of early Alaska history and life in this museum which owes its inspiration to Mr. Jackson, who let no opportunity slip by to gather any material that spoke of early times.

Many other parts of the town have their interest. Streets with Russian names, Matsoutoff, Baranof, Peschouroff, and then with the sharp contrast with which the place is full, Lincoln Avenue, wander off in whimsical fashion and tempt to exploration. The Russian graveyard, the old log trading post, the roof sagging, the walls losing their staunch uprightness, the old Russian monastery or mission house where the Russian priest lives, though as the Russian church no longer has a head the officials do not know just what is their standing, all fire

the imagination with pictures of another life and another world from that of to-day. But though all these have their distinct charm, to many the most beautiful and most enjoyable part of a visit to Sitka is the walk through the Indian Park, or the Indian Walk, or Lovers' Lane, as it is variously called.

Indian Park in which is this famous walk lies beyond the Sheldon Jackson School and past a few frame houses in which some of the graduates of the school live. The road to it winds along the curving shore with the blue waters of the harbor, the green islands with a tiny line of white surf beating against the gray rocks at their base, making a picture of lovely color and gentle line for the eyes to feast upon. Then suddenly the path plunges into a dense, cool, evergreen forest with thick moss beneath the feet and ferns and ground dogwood making a carpet of green between the tall, straight tree trunks as far as the eye can see. The sunlight penetrates fitfully here and there, lighting the green-brown gloom with flickering spots of gold or sending down some dark avenue a shaft in which tiny motes dance. Not a sound is heard but the gentle splashing of the waves on the near-by shore or the song of a bird. Then through the trees is caught a gleam of color and a gigantic totem pole looms up, a strange, barbaric note amidst this simple beauty of nature. Then another and another appears, grim, weird, and then off in a little grassy glade among the trees is quite a group of them. But soon they are left behind, the path sweeps out to a point on the shore and then turns to the left and follows the clear, brownish water of Indian River that flows in shallow ripples over stones and gravel into the sea. Then it swings back under a green archway to the shore with an entrancing vista ahead through an avenue of dark green boughs of the

harbor with one tiny island crowded to its edge with fir trees set right in the centre of the picture, as if the pathway had been chosen, perhaps it was, because of this charming picture that fills the vista at the end.

As one comes out of the woods a very fine view of the town itself is obtained clustered on the beach with the foreign-looking green dome and gold cross of the Greek church dominating it, and the mountains rising beyond.

CHAPTER XVII

ALASKA'S ROMANTIC HISTORY

VITUS BERING AND OTHER EARLY EXPLORERS. THE VARIOUS RUSSIAN FUR COMPANIES. BARANOF AND HIS WORK. THE PURCHASE BY THE UNITED STATES. BOUNDARY QUESTIONS.

At Sitka one comes in contact more comprehensively and more closely than elsewhere with the history of Alaska. This town was the principal city of the Russian occupation, here Baranof, the builder of the Czar's domain in America, had for many years his official residence, and here after the transfer to the United States the capital of the Territory was established. As Alaskan history begins thus to unroll here many are surprised to find that it consists of more than annals of gold stampeder, that it reaches back into other centuries and other civilizations, and that it matches in picturesque quality that of New England and its Puritans, Pennsylvania and its Quakers, Florida and its Spaniards, Louisiana and its creoles, and California and its missions.

Alaskan history begins, one might say, in Siberia with a little venturesome band of Cossacks who had crossed the Ural Mountains, crossed Siberia, reached Bering Sea, though it was not then so called, and there heard tales of a great land to the eastward. These tales were verified by the timber that washed up on the shore and the birds that flew over the water, for these were different from those of the country in which they then were.

These tales of a country beyond and the conjectures as to what it must be like drifted back with many additions

to St. Petersburg and here found an attentive listener in the alert, astute Peter the Great. Why not a Russia in America as well as a Russia in Asia and a Russia in Europe, he ambitiously dreamed? To make the dream come true, he immediately set about sending out expeditions to explore.

The one which resulted in the discovery of the American coast was in charge of Vitus Bering, a Dane, who had been in the Russian naval service for some thirty years. With him was associated Alexei Chirikof as lieutenant. Before this expedition finally sailed from the Kamchatkan coast, Peter the Great passed away, but his wishes were faithfully carried out by the Empress Catherine, his widow, and Elizabeth, his daughter. The expedition comprised not only Bering and Chirikof and the necessary crew, but several scientific men, among them being George Wilhelm Steller, the naturalist, whose investigations added much to the early knowledge of Alaska's natural history.

Two vessels were fitted out, one commanded by Bering, the other in charge of Chirikof. For several days the two vessels kept together as well as they could. But a violent storm came up, some disagreement or misunderstanding arose between Bering and Chirikof as to the course to be pursued and the boats became separated. Chirikof spent several days trying to find his superior officer, but finally decided it was folly to waste further time, and as the object of the expedition was to find land, he decided to be about it. He shaped his course eastward and on the fifteenth of July, 1741, sighted land. It was a high wooded mountain, green and beautiful, and a boat was sent ashore. But no landing place could be found and the party returned. A fog and rain then came on and the shore disappeared in the mist. The next day the

weather cleared and still higher mountains were sighted as well as the entrance to a great bay.

An exploring party was again sent ashore. Several days passed without their return and Chirikof, becoming alarmed, sent a second boat. This also failed to come back. The next day two canoes filled with Indians appeared but did not approach the vessel. Chirikof had no more ship's boats and his force was already greatly depleted by the loss of the men sent. He cruised about for several days hoping to receive some signal that the men were still alive. But finally he gave up all hope and turned his vessel toward Kamchatka.

Land was sighted several times on the way back, high mountains covered with snow being frequently seen. He had no boats, however, to land. He had, in fact, no means of getting fresh water and the party suffered greatly for the lack of it. Sickness broke out, Chirikof himself falling ill. A number of the expedition died. The sails rotted and fell to pieces, for the crew, few in number and feeble from sickness, were unable to take proper care of the vessel. The ship almost navigated itself. But finally the party reached Kamchatka, more than a score of the little company having been lost and almost all of those who did return being ill.

Bering's voyage was far more disastrous. When the two vessels were separated, he drifted about for a day hoping to find Chirikof, but finally gave up the attempt and headed southward. Finding nothing, he changed his course eastward and then northeastward. The records of his voyage show constant changes, as if he were undecided just what course to adopt. For five weeks he thus drifted about. Water became short and the crew were rationed on it. At last, however, on July 16th, a towering peak and a great chain of snow mountains were seen. A

contrary wind held them off from the coast until July 20, when they were enabled to land on an island, which was named St. Elias in honor of the day.

Two boats were sent ashore in one of which was Steller, the naturalist. Huts of log and rough planks roofed with bark and dried grass were found, also copper instruments, a whetstone, a rattle made of clay, broken arrows, some dried fish, ropes made of seaweed, and some cooking utensils. Steller gathered some plants among which was the forget-me-not, which to-day is the Territorial flower. Steller was loath to leave without further study of the natural resources of the new land, but Bering ordered him aboard. One can imagine the scientist's joy and enthusiasm at being the first to explore this new land and his regret at having so short a time in which to make observations. In his "Journal," he says of this first landing, "On descending the mountain covered with a vast forest without any trace of road or trail, I found it impossible to make my way through the thicket, and consequently re-ascended; looking mournfully at the limits of my observations, I turned my eyes toward the continent which it was not in my power to explore. Again receiving a positive order to join to the ship I returned mournfully with my collection." He is described by others of the party when Bering ordered him to come back as being perched on a steep rock taking in as much as possible of America.

For some unaccountable reason Bering would not take on a sufficient quantity of water, but having found the land of which they had come in search, he ordered a return to Asia. The other officers called his attention to the unfilled water casks but he was deaf to their suggestions. He wanted to go home and he went.

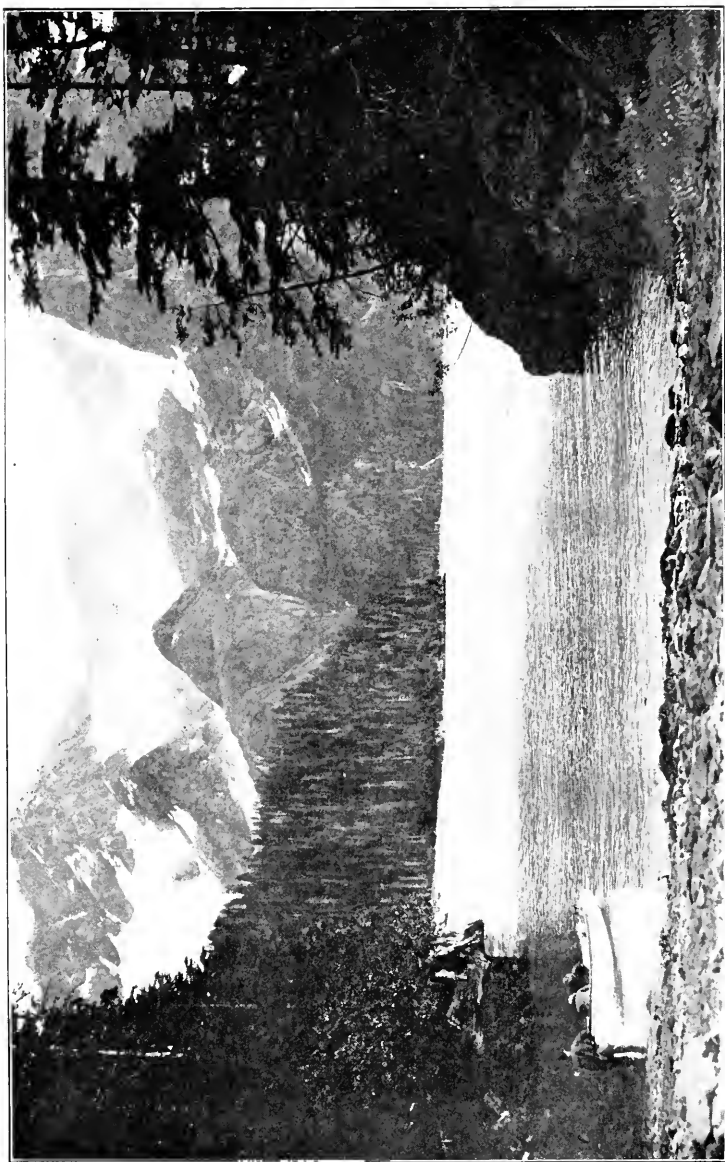
A course was shaped south and west. Land was sighted

through fog at various times, but no landing was made. It was thought that at one time the coast of what is now Kodiak was seen. Progress was made through numerous islands which were, no doubt, the islands off Kodiak, the Alaska Peninsula and the beginning of the Aleutians. Water gave out and sickness broke out among the crew. One died and was buried on the Shumagin Islands, the name being given in his memory.

Bering himself fell ill. Sickness among the crew increased. Every day saw a death on board until there were scarcely enough of the crew left to manage the ship. Of this period Steller says in his "Journal," "The most eloquent pen would fail to describe the misery of our condition." Bering, it is said, was profuse in his promises to celestial powers. Catholic or Protestant, Greek or German, he guaranteed plentiful donations to all alike if any would help him. He was not particular as to creed so only he received the help desired.

The condition of the ship was terrible. The crew, no matter how ill, were compelled to work night and day in rain, cold and snow, for the season was late and winter was setting in. The sails and rigging were so rotten it was impossible to set much canvas. Finally land that was believed to be Kamchatka was sighted. Steller gives a graphic picture of the effect of it upon all of them. "It would be impossible to describe the joy created by the sight of land," he writes. "The dying crawled on deck to see with their own eyes what they could not believe; even the feeble commander was carried out of his cabin. To the astonishment of all, a small keg of brandy was taken from some hiding place and dealt out in celebration of the supposed approach to the coast of Kamchatka."

The next day, however, an accident befell the boat that made a landing on the nearest land imperative. They



THE SCENIC BEAUTY THE EARLY EXPLORERS DISCOVERED

steered, therefore, toward the point immediately at hand and cast anchor. But the sea began to rise, the anchor cable broke, a huge wave carried the boat over a ledge of rocks, and they were held fast in a little bay on a shore of which they knew nothing.

They set about making themselves as comfortable as possible. There was a little driftwood on the island and by digging caves in the sand and shielding them with what sail-cloth they had left, they made some sort of shelters. The sick people were then carried ashore. The only animals seen were Arctic foxes, who fell upon the dead and devoured them before burial was possible. The sea otter was found for food, and it was this discovery of the animal, it is said, that led eventually to the founding of the Russian power in America.

Winter set in, sickness increased, food was scarce, and dull despair settled upon all in the little community. At last on a cold, gray day in December, Bering died in a miserable hut half covered with sand which trickled in on him. A few days afterward, the second mate died and then more of the sailors. It began to look as if the whole little band would be wiped out. But finally the sick ones began to improve, the outlook grew brighter, and thought was turned to means of leaving this barren waste.

The castaways in their explorations had already discovered that they were on an island and not on the coast of Kamchatka as they had believed. They saw that if they were ever to get away they must take matters in their own hands. Finally it was decided to use what remained of the ship to build a boat. Even then in their desperate condition so great was their awe of their rulers that they feared they would be punished for taking a government vessel to pieces. But they decided it would be no worse than death on the island and so they began.

It was not until the middle of the following summer that the vessel was completed. All the provisions they had for it was the meat of sea animals. But crudely built and poorly provisioned as it was, they set forth in it, not knowing where they were nor how to reach the coast they were seeking. But finally they came to Kamchatka.

Thus, in disaster, ended the two voyages which had set out with such high hopes to discover America. But they had succeeded in their object. The land to the eastward was proven to exist, and the skins of the sea otters which these survivors brought back gave it a value that immediately turned covetous eyes toward it. Although upon Bering's and Chirikof's discoveries Russia based her claim to the ownership of northwest America, probably little further would have been done for many years at least, if these rich and valuable furs had not pointed to a new source of wealth. In Russia, fur was almost the currency of the country. Taxes and salaries were paid in furs. In old charters and legal documents, penalties and rewards were given in furs. The sea otter was especially valuable, so that the discovery was to the Russians what the finding of gold in Alaska was to later generations. Hardship, toil, even death, were braved to share in this new source of wealth.

Within a few years a horde of traders and hunters had started for these new lands. Although little was known in regard to the region and there were no charts to guide through these unknown waters, these men were not deterred. The boats they built were of the crudest kind and often went to pieces in the first gale, but though there were shipwrecks and much suffering, the rich cargoes they brought back of sea otter and fox skins incited others to brave the dangers. The gentle, peaceful natives of these islands, the Aleutians, were cruelly mistreated. It

is said many committed suicide to escape from the Russians, and for a hundred years and more the cruelties of these early traders were told by the remnant of the race that were happy and prosperous until the Russians arrived. It has been estimated that the natives, who numbered about twenty-five thousand at the coming of the Russians, were reduced to less than a thousand under the Russian rule.

The outrages committed by these early traders led to the formation of trading companies with the pretense at least of government oversight. The most important of these was the one with which Grigor Shelikof was associated. He has been called the founder of the Russian colonies on the American continent. He banded these various traders into companies, started colonies and brought order, system and efficiency into the business.

With Shelikof at the head of affairs, operations were extended eastward. The ruthless slaughter of the fur-bearing animals on the islands first discovered was beginning to show in decreased returns. If the business was to continue to be profitable new hunting grounds were necessary. Foreseeing this, Shelikof sent expeditions to the mouth of the Copper River, which was ascended for some distance, and to Prince William Sound, which was at that time named by the Russians, Chugach. This name is still retained by the mountains near the coast but the name of the body of water was changed by Captain Cook to Prince William Sound.

Not only did he decide that new hunting grounds were necessary but that the establishment of permanent colonies would be wise. Therefore, in 1783, three vessels were fitted out, a company of about two hundred people gathered, and with his wife, who always accompanied him on his expeditions, he sailed eastward, finally reaching

Kikhtak or Kaniag, the present Kodiak, and entered a harbor named after their vessels, Three Saints. Here they made a settlement, though the natives at first attacked them and tried to prevent them from occupying the land. Houses and fortifications were erected, Shelikof making his own residence as luxurious as possible in order, it is said, to impress the savages. A school was opened, Shelikof himself teaching and also Madame Shelikof. Gardens were planted, and the little settlement took on signs of permanency. Explorations were made on near-by islands and coasts and further colonies planned.

In 1786 one of the companies with which Shelikof was connected sent out Gerassim Pribylof who discovered the fur seal islands. Here were also found sea otters, for they had not been disturbed in this section, and also walrus and fox, and these new sources of valuable furs and other products brought in a new harvest of wealth.

Affairs were now going well with Shelikof and he returned to Siberia to take steps for obtaining the exclusive right to trade in these regions for his companies.

The Russians, however, had not been left in undisputed possession of these waters. The news of the rich harvest they were reaping had reached the ears of other governments and other traders, and various expeditions had been sent to explore and to take possession of the land in the name of their respective sovereigns, and many private traders of other nationalities had also come.

The Spanish had arrived in 1773, and for some twenty years and more thereafter they went through the ceremony at various places of claiming the land for Spain. Mt. Edgumbe was discovered by the Spanish and named Mt. San Jacinto. At one time they had quite a flourishing colony for a few years at Nootka on the western coast of

Vancouver Island. The natives were driven off the land and a little Spanish village established with a fort mounted with cannon, barracks, cottages, storehouses, a church, hospital, bakery, blacksmith and carpenter shops. The ceremony of taking possession was full of the color and picturesqueness of Spain. Flags were raised and cannon fired. There was speechmaking and feasting. Meanwhile, from vantage points on near-by hills, the Indians sadly watched the occupation of their pleasant land, and could they have fully understood the activities of these strangers the irony of blandly appropriating the property of others and then erecting thereon a house in which to worship a God of justice, must have sunk deep into their savage breasts.

The Indians, however, were helpless, and the little Spanish settlement flourished. Gardens were planted, vegetables raised and life was quite comfortable and happy. Vancouver says of it, "Their poultry, consisting of fowls and turkeys, were in excellent condition and in abundance, as were black cattle and swine." The captain of a trading vessel from Boston also reports the settlement's prosperity and tells of a dinner he had there at which everything was served on silver and that when he sailed away forty fresh salmon, fresh pork, eggs, butter, new bread, wine, salad and cabbage were given him.

Alejandro Malaspina, who was in charge of one of these Spanish expeditions, entered the bay where is the great glacier that bears his name. To this harbor he gave the name of Disenchantment Bay because when he first entered he thought he had found the long sought passage to Hudson Bay.

The English came, and under Captain Cook and George Vancouver made exhaustive and careful explorations and surveys. But they were chiefly hunting the route to the

Atlantic Ocean that it was hoped would be found along this coast and they gave little thought to colonization or fur hunting. Cook's instructions read, "Make a thorough search for a navigable passage into Hudson or Baffin Bay." But he was also told "to take possession with the consent of the natives in the name of the King of Great Britain of certain situations in any such countries as you may discover." He went up and down the coast carefully sounding and making charts. Cook Inlet, which was named for him, he felt sure was the longed-for passage and Turnagain Arm aptly expresses his feelings as he found he must seek further. He entered Bering Sea and went as far north as Icy Cape. Vancouver, who had been a midshipman under Cook, continued the work after Cook's death, and so careful and accurate was he that his charts are in use to-day and his work has been the basis of all work since then. He definitely removed all doubt as to the possibility of finding any water communication for shipping between the north Pacific and the interior of the continent.

The French also came, and in 1786 a French vessel, under La Perouse, sighted Mt. St. Elias and Cape Fairweather and made various explorations near by.

The Russians, however, went steadily ahead with their colonization and fur hunting, and under the vigorous direction of Shelikof prospered. In 1778 he was successful in securing the imperial favor he had been seeking for his enterprise. A ukase was issued granting to the Shelikof Company exclusive control over the region occupied by them. The Empress said in her ukase, "As a reward for services rendered to the country by the merchants Shelikof and Golikof by discovering unknown countries and nations and establishing commerce and industries there."

His ambitions thus far realized, Shelikof looked about him for a man to send to this new country, one who would vigorously push the business and be able to handle successfully the many intricate problems that would arise. He knew he must have a man of good practical business ability, yet one with vision; firm enough to deal with the natives and colonists, yet not so brutal as to fail to win their coöperation; a man, too, who was trustworthy, for all the multiple business of the company would be in his hands. His choice fell upon Alexander Baranof. Baranof at first declined, but his own affairs not prospering, he finally accepted and thus came upon the scene, the second man to help make the Russian colonization of this part of America a success.

Baranof was born in eastern Russia and early went to Moscow where he became a clerk in a retail establishment. Later he emigrated to Siberia where he eventually went into the trading business for himself. Shelikof in some of his journeys through Siberia had no doubt met him and been impressed with his ability.

The task that confronted the new manager was not light. The traders that were coming into these waters for sea otter skins, which were the very life of the Shelikof Company, had better and fresher goods than the Russians could bring by sled across Siberia and did not have to maintain permanent forts and settlements and so could be more lavish with their goods. Not only did he have this handicap to fight, but at the time he took charge, dissatisfaction was rife among the Shelikof employees. No supply ships had arrived from Russia for several years and the traders and hunters for the Russians had been compelled to live on the native food and they were almost on the point of mutiny.

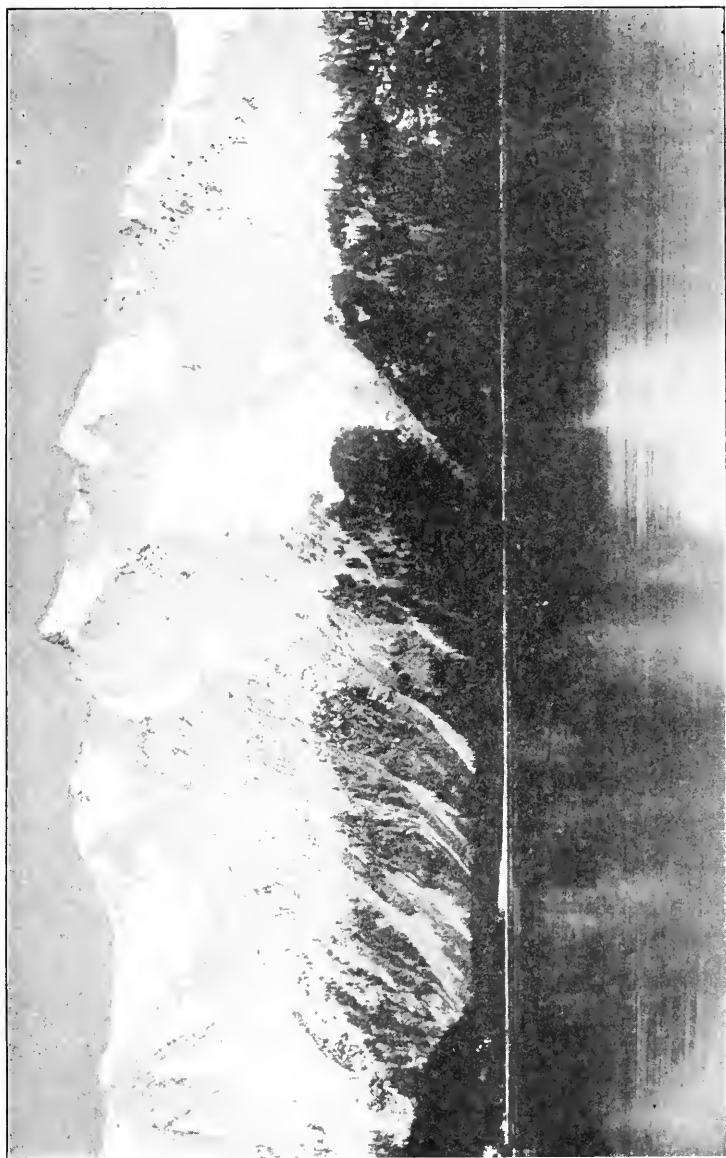
But he quickly grasped the situation and began laying

plans to put the work he had undertaken on a broad and sure foundation.

He overcame the handicap of fresher and better goods in the hands of his rivals by trading for these goods the sealskins which the English traders could not get, and then with the goods thus secured, he bought the sea otter skins and thus prevented his rivals from getting them.

He settled the question of more certain and more regular supplies by deciding to build ships. He chose what is now known as Resurrection Bay as the site for his ship-building venture and soon the mountains of Kenai Peninsula resounded with the sound of the axe and the crash of falling trees. Many needed materials of course were lacking but he did not despair. Iron was collected from the pieces of wrecks. Steel for axes was prepared from the same material. In regard to the difficulties of the work he wrote a friend, "We have only half a keg of tar, three kegs of pitch, not a pound of oakum, not a single nail and very little iron for so large a vessel." But Baranof was a resourceful man and in 1794 the first ship built on the Pacific coast was launched. The vessel was of spruce timber, seventy-three feet in length, with three masts. The calking above the water line was done with moss, and for paint, tar and whale oil was used. The sails consisted of pieces and scraps of canvas. The result was a number of sheets of different qualities and colors. The strangely compounded paint was unequal in color and gave the hull a spotted appearance.

But poorly built and uncouth looking as it was, it demonstrated that ships could be constructed here and marked a decided step forward in the affairs of the company. Work was at once commenced on other vessels and Baranof began laying plans for more extended trading and colonization operations.



RESURRECTION BAY

At this opportune time the merging of the Shelikof Company with other independent companies and eventually the establishment of the Russian-American Company gave him the support needed for these plans and helped to the realization of two of his great ambitions, the incorporation with Russia of the whole of northwestern America and the prevention of other nations from establishing a trade with the natives.

To carry out these purposes he decided to locate a permanent settlement in the vicinity of Norfolk Sound where Sitka now is. The first settlement here was attacked by natives and practically wiped out, but the second colony was more successful, and in 1804, Sitka, or Novo Arkhangelsk as it was then called, was established after a fight in which the natives were disposed of. A residence for Baranof, barracks, a fort with a stockade, and other buildings were erected. A flour mill, a sawmill, a tannery, a shop for repairing nautical instruments, cooper and smith shops, a foundry, a shipbuilding plant, were from time to time started and the little colony became a busy place. Spades and plowshares were manufactured and the bells used in some of the missions in California were cast here. Vegetable gardens were also planted and cattle raised.

Though Baranof was growing old he did not stop with the advance to Sitka. He reached out for trade with California and even founded a colony there and turned his eyes to the Sandwich Islands and endeavored to extend the business of his company there. But as the years crept on he finally asked to be relieved and though his request was disregarded for a long time, it was at last granted and a successor was appointed.

The record of his long service was one of absolute honesty and this at a time and among a people not noted

for this trait. But in all the complicated accounts of the vast enterprise not a discrepancy was to be found and cash accounts involving millions were in perfect order. He seems to have been ambitious for the company rather than desirous of furthering his own interests in any way.

In appearance he is described as below the medium height, thin and sallow in complexion and with scanty, red-tinged, flaxen hair, fringing a bald crown. In later years he wore a black wig tied to his head with a black handkerchief. When seventy, life and energy sparkled in his eyes. He was abstemious in his eating, for he rose early and ate but one meal a day, but he was said to be a hard drinker and the feasts he gave which ended usually in a state of intoxication for all present are matters of record. But it must be remembered that in those days drinking, and especially with the Russians, was a customary matter.

He was said to have a furious temper but he was extremely gentle with his daughter and was wax in her hands. He was most particular as to her training, and once upon discovering the governess whom he had employed to educate this daughter, drinking, he drove the woman from the house. At the banquets he gave at which there was much music and singing, as well as feasting and drinking, he always sent his daughter away as soon as he began to feel the effects of his potations.

The long years in this new country, many of them filled with hardships of the most extreme kind, no doubt did much to make him rough and uncouth and to cause him to find his pleasures in the gratification of appetites. But these faults, which undoubtedly grew in a large measure from his environment, were insignificant in comparison with the work accomplished. In summing up his achievements an historian says of him, "He was the moving

and directing spirit of Russian America. When he came to the colony he found a post at Three Saints built of alder and plastered with clay and the sub-stations extended only to Kodiak and Cook Inlet. He left an empire in extent whose outposts were at Ross, California, on the Pribilof Islands, and the Kurile Islands. He built churches and established schools. Ten vessels were constructed under his management in the territory and four others at Ross. He introduced cattle at Kodiak, Unalaska, Unga, Sitka and Ross. There were five hundred head of cattle at Kodiak during his time. He extended his trade to California, to China and to the Sandwich Islands. The Russian possessions in the new world attained their widest extent under the direction of Baranof."

He died April 16, 1819, on his way home, and was buried at sea.

Naval officers took Baranof's place, men who had not grown up with the enterprise as had Baranof and who knew little of the practical work to be done. Behind them were officers and directors in Russia who knew nothing of the conditions in Alaska. It was government from a distance with inexperienced and often indifferent people in charge of the immediate work. As a consequence business suffered and profits fell off. Boundary troubles, too, arose. When the company's charter had been renewed in 1821, the jurisdiction of the company was established over all the territory from the northern cape of Vancouver Island to Bering Strait and beyond and to all islands of that coast as well as those between it and Siberia. Thus Russia by ukase took possession of this vast territory. The Spanish and French had practically withdrawn all claims, but the British, through the Hudson Bay and other companies, had posts, if not actually within the territory claimed by the Russians, at least on its out-

skirts, and both British and American vessels were trading in Russian waters. In regard to these latter Russia made certain stringent regulations that raised a storm of protest and led in 1822-23-25 to a voluminous diplomatic correspondence and finally to a convention in which the boundary was fixed and certain concessions made. It was in regard to this dispute that in a message to Congress in 1823, President Monroe first gave formal promulgation to what has become known as the Monroe Doctrine, so Alaska may be said to have been the inspiration of America for Americans. In this message in referring to the boundary dispute in the Northwest at issue between Russia, Great Britain and the United States, and the attempt made by Russia to exclude foreigners from commerce and fishing in the disputed waters, President Monroe said: "The occasion has been judged proper for asserting as a principle in which the rights and interests of the United States are involved that the American continents by the free and independent conditions which they have assumed and maintained are henceforth not to be considered as subject for future colonization by any European Power."

Various governors were appointed by Russia from time to time, among them being Baron Wrangell, Etolin and others, who have left their names either on the history or the geography of Alaska. Life at Sitka during these years was gay and bright. Captains and officers of the various vessels that frequented these waters were entertained, and there were banquets, balls and many festivities. Governor Etolin established a social club furnished with reading, billiard, card and supper rooms. The library, which had been founded in 1805, contained in 1835 nearly two thousand volumes and about four hundred pamphlets and periodicals. Just recently a handsome oil portrait of Peter the Great was found in a pile of rubbish.

All of which shows that this part of the world in these years was not the wild, uninhabited region many have thought it to be.

During this period exploration expeditions were sent out by the Russians, some of them penetrating to some distance into the interior, others making investigations along the coast.

The charter of the company was again renewed in 1841, and at this time an order was given by the governor that no intoxicating liquors were to be sold in the colonies. This was quite a blow to the Russian temperament for it had not at that time any prohibition inclinations. When the order was read to the servants of the company it is said that they could not refrain from tears, and speaking of these sad times one of the men said, "I remember Father Baranof. There was a time when a camp kettle was set out brimming full and he would shout, 'Drink, children!' and he would himself join in a merry song. But now what times have we! We can do nothing but work, and when that is done we promenade or smoke in the barracks. What a life! You see, we all have to join this temperance society, which is some kind of sect, and must pay a beaver skin apiece to join, a big price to pay for the privilege of drinking nothing but water. One man, who was a German who joined, in a few weeks was dead. God knows where he is now. I do not think there is much room for Dutchmen in heaven, so many Russians go there."

With the coming of the Crimean War Russia began to have doubts as to the wisdom of a domain so far away. Later when the time came for the renewal of its charter by the Russian Company it refused the terms the government gave. The vast territory was now practically without oversight. Discussions had already been under way

as to the United States taking it and proposals had been made it is said as early at 1859. Five million dollars were at this time offered for it, though not officially. The story is told that a company of citizens applied to Mr. Seward to assist them in purchasing Alaska to carry on a fish, fur and timber trade, and that he, finding Russia willing to sell, secured the territory not for the company but for the country. Negotiations were, however, continued which culminated in 1867 in the purchase by the United States of Russian America for the sum of \$7,200,000, the cession to be free and unencumbered by any reservation, privileges, franchises, grants or possessions by any associated companies whether corporate or incorporate, Russian or other. The treaty was signed at four o'clock in the morning of March 30, 1867, and was ratified in May.

William H. Seward, Secretary of State at this time, is the one to whom the chief credit for the successful completion of the negotiations is due, though he was ably seconded by the eloquence of Charles Sumner, who made an address, now historic, on the subject before Congress. It is to Sumner that we owe the adoption of the beautiful Indian name, Alaska, for in this memorable speech, he said: "Clearly any name borrowed from classical history or from individual invention will be little better than a misnomer or a nickname unworthy of such an occasion. The name should come from the country itself. It should be indigenous, aboriginal. Happily such a name exists."

The formal transfer was made October 18, 1867. The Russian Commissioner, Captain Alexei Pestchourof, the American Commissioner, General L. H. Rousseau, and a company of United States infantry landed at Sitka, marched to the governor's residence, which had once been Baranof's Castle, and with a brief, simple declaration the

Russian flag was hauled down, the Stars and Stripes run up, a few salutes fired and Alaska was an American possession.

Since the acquisition of Alaska a few international matters have come up from time to time, chiefly with Great Britain, for settlement. But they have all been amicably arranged. One of the most recent of these was the boundary question which was settled by an international tribunal of British and American jurists in London in 1903. The dispute involved the interpretation of the words in the early treaties of 1825 which in certain phrases were decidedly vague, and the determination whether the coastal boundary should cross or pass around the heads of the fiords of the coast. The boundary as fixed in the early Anglo-Russian treaty of 1825 was as some one has said, "an ideal and not a physical boundary." It did not fit in with geographical facts. All questions in dispute were, however, finally satisfactorily settled.

A commission was later appointed to mark the boundary line where it runs northward from the coast to the Arctic Ocean between Alaska and Canada. This was a far more arduous matter than deciding the disputed points. In speaking of this actual surveying work a member of the Commission said, "The treaty makers laid a ruler on a map and said, 'This shall be the dividing line.' But marking it in that way and marking that line through an unknown wilderness were vastly different."

The Commission was five years finishing its task and this boundary is said to be the straightest of the world's surveyed lines. It runs for six hundred miles from the St. Elias Mountains to the Arctic Ocean, over great mountain ranges, glaciers, swift rivers, quicksands, bottomless morasses. Wherever that line laid on the map went, the Commission had to follow even though it might range

over some seemingly inaccessible peak or pass through an impossible morass. High summits were crossed, raging torrents forded, camps made on glaciers. Every obstacle of the wilderness was fought and conquered and at last the Arctic reached.

The line consists of a vista twenty feet wide cut through all timber, of monuments set at intervisible points not more than four miles apart, and of a detailed map of the strip of country two miles each side of the boundary. At prominent river crossings and at main points of travel, the monuments are sectional shafts five feet high of aluminum-bronze, weighing three hundred pounds, set in a ton of concrete. At less important points, the monuments are three feet high and set in fifteen hundred pounds of concrete.

The romance of this marking of the boundary is not the least interesting of the many unusual and picturesque features of Alaska's history. But from the coming of Bering and Chirikof to the present day the annals of this territory are full of the tragic, the pathetic, the picturesque, the colorful, the unusual. The more minutely one looks into it, the more does the voice of humanity speak here in many tones.

CHAPTER XVIII

FORESTS AND FLOWERS

A RICH CARPET OF WILD FLOWERS THROUGHOUT THE TERRITORY. WILD BERRIES IN PROFUSION. SOME WILD VEGETABLES. DENSE AND VALUABLE FORESTS.

IN few things is Alaska more surprising to the person who visits it for the first time than in its vegetation. Mountains and glaciers and icebergs the traveller expects to see. Bear and caribou and moose belong to the country quite as naturally. In the general thought, the Alaskan stage is set with such scenery. But to find the land a sheet of vivid wild flowers, to become entangled in almost tropical jungles, to see luscious berries hanging in a profusion never before known is to come upon the unexpected. If told before going that this is what one will find the informant is apt to be looked upon as qualified for immediate membership in the Ananias Club.

But this very delightful surprise is in store for those unfamiliar with Alaska in summer. There are areas where the ground is blue with lupines, rosy with fireweed or a rich tapestry of varied colors from many wild-flowers. There are thickets of skunk cabbage and devil's club and bushes and ferns and moss that are tropical in their luxuriance. The skunk cabbage grows so large that its leaves suggest those of the banana plant and the foliage of the devil's club is easily more than a foot in width. These dense thickets are higher than the top of an auto spinning along the roads that wind through them. They could not be penetrated without the aid of an axe to chop

the way. High over this dense underbrush tower spruce and hemlock and cedar, the spruce trees sometimes reaching a height of one hundred and fifty feet.

Much delight is added to the pleasure of travelling in Alaska by this profusion of wild blossoms. The beauty of the Inland Passage is enhanced by the clumps of brilliant fireweed and other flowers that brighten sunny points of land or perch wherever they can get a foothold amidst the rocks. When the Yukon steamers stop for wood, the grassy meadows are aflame with the flowers of the season — great fragrant wild roses perhaps, or jewel-like columbine, or dainty bluebells. The roads are lined with brilliant borders of fireweed, marguerites, daisies, golden-rod. It is a land of lovely color, the air fragrant with the breath of the blossoms, the pungent odor of evergreens and fresh with the invigorating coolness of snow peaks.

Because of the abundance of snow-capped mountains and glaciers and icebergs many have thought of Alaska as a region of little vegetation. But flowers and grasses and bushes grow on the glaciers almost at the edge of snow peaks and some flowers have even been found on the glittering blue icebergs floating serenely on the sapphire waters. The many hours of sunshine and the powerful heat of the sun overcome the chill of the ice. Its only effect upon the vegetation is to provide moisture. Wherever sufficient soil has lodged on the glaciers or snow to give vegetation root, it will be found to be growing. On the icy banks at the foot of the Childs Glacier is a thicket of alders, willow and grasses so dense that it shuts off part of the view and tourists complain because the railroad does not cut it away. Yet if the soil in which this vegetation is growing is examined it is found to be a mixture of ice and earth. Some one has said that spring

Wild Flowers



comes with a shout in Alaska, and truly it does. It leaps joyously and exuberantly to life with the long, warm, sunny days, and snow peaks and glaciers and icebergs look on approvingly and send their waters to aid it.

Almost all the wild flowers of the temperate zones are to be found in Alaska. Perhaps the most interesting of the wild blossoms because it has been taken for the Territorial flower is the forget-me-not. It is a pure, brilliant blue with a yellow centre, the blossom, though tiny, a trifle larger than the bloom in the States. The plant grows a foot high. It gives the impression of greater strength and vividness than the flower as most of us know it. A handful of the dainty blooms seems like a bit of the sky so wonderful is the color.

Of the countless other blossoms it is difficult to say which impresses the most. The fireweed is in its season a sheet of flame over almost the whole of Alaska. It grows sometimes a yard high, is covered with a rose-magenta blossom, and is found in single stalks or dense patches wherever it can discover an inch of soil for flaunting its radiant beauty. The road on the trail from Fairbanks to the coast is lined with it. Even through the dark spruce and birch woods it runs a ribbon of color by the side of the roadway.

Wild roses might also be said to be an universal flower. They grow larger and are more fragrant in Alaska than elsewhere. Burbank has said that the wild rose of Alaska is the most beautiful in the world.

The lupines are numerous, and the wild pea, a rosy flower growing perhaps a foot high, spreads itself in great sheets. One of the loveliest of the wild flowers is the bluebell, clusters of dainty little bells hanging gracefully on drooping stems possibly a foot or so high. The buds are a delicate pink and occasionally there are pink

bells, a color combination that is ravishing. In some places a larger blue, bell-shaped flower, which has been called the wild harebell, is to be found. This does not grow so high as the bluebell, but its lovely blossoms, barely lifting their heads from the ground, have a careless grace that is enchanting.

Wild violets are to be found in quantity in the early spring, large, with stems a foot long, and in some sections with a delicious fragrance. Wild lilies of the valley are another bloom of delicacy and sweetness.

But a list of the wild flowers of Alaska would be a list of the beauties of the floral kingdom. Daisies of many kinds are here, and asters in variety. Wild geranium, lady's slipper, buttercups, larkspur, dandelion, heather, gentian, all and many others are to be found.

The ground dogwood powders the earth with its snowy blossoms, water lilies and flags make gay the marshy places. One of these lilies is yellow with reddish edges to its golden petals and with a red, yellow and green centre that is a marvellous bit of floral architecture. Dwarf rhododendrons and other bushes add their burden of blossoms to the general profusion and wild grasses wave their slender, graceful heads in delicate shades of purple, lavender, russet and green.

Wild berries are to be found in variety and profusion. At one place along the coast in the southeastern part are miles of wild strawberries. Not many miles from White Horse is a patch fifteen miles long and four miles wide where they grow so thickly that in the early days the miners picked them by the gallon, put them in watertight casks in alternate layers of berries and sugar, placed these casks in the icy waters of mountain streams and preserved the berries for months. Often they lasted till winter, when they froze, and the miners had frozen

strawberries to deliciously top off their bacon and bannock.

Many of the housewives of Alaska still use this method of preserving their berries, except that they put them in stone jars in their cellars. The cellars of many Alaskan homes are really cold storage plants, for they are dug in ice. Blueberries are kept this way without fermenting in many a cellar in Fairbanks until February.

Both high and low-bush blueberries or huckleberries grow in abundance in almost all parts of Alaska, being found on the Seward Peninsula in the vicinity of Nome. The huckleberries that grow well up on the mountains are a half inch and more in diameter and particularly delicious in flavor. The bushes are from three to four feet high. In lower regions a different variety not so large is found on bushes three to seven feet high. The Indians gather these berries, also salmon and service berries, dry them over a slow fire, beat them to a paste, and make them into cakes about an inch thick. They also preserve the huckleberries in oil, and Eskimo ice cream consists of berries mixed with oil and reindeer fat until foamy and then partly frozen.

High and low-bush cranberries also grow plentifully and have a delicious, spicy flavor. Salmon berries are abundant, big, delicious berries that drop in the hand with a touch and which grow along the roadside and in tangled thickets in many parts of the Territory. Wild currants, both black and red, abound and are remarkable for the size of the fruit and the length of the branches.

It has been estimated there are wild berries in Alaska sufficient for every bird, beast and human being in the Territory and with thousands of gallons to spare.

Wild onions, parsnips, celery and rhubarb are to be found but are not much used, though Mr. S. J. Marsh, a

prospector and geologist, says one could make his way to the Arctic Ocean and live on the wild vegetables, berries, game and fish to be found. Reverend A. P. Kashevaroff, a Russian missionary who spent many years in Alaska, has made quite a study of the edible wild greens and herbs. He speaks of a wild cucumber plant whose shoots resemble asparagus tips and grow from five to six inches high. The plant has been given this name because these shoots have the odor and taste of cucumber. He also describes a plant called goose tongue that grows on tide lands and looks like grass. When freshly gathered and prepared in the right way it is as wholesome and delicious as spinach. Wild parsley, he says, can be used in the raw state for seasoning, the same as ordinary garden parsley, or it can be cooked as greens. It grows all over the Territory. Wild rice is another widely distributed plant useful for food. The root is white, about the size of a small walnut, and is composed of small bulbs resembling rice grains. It can be used in place of potatoes. He even tells of a willow that resembles Brussels sprouts and is tender and juicy.

Seaweed and kelp are found abundantly in the waters off the shore. The Indians use some of these seaweeds for food, drying them in the summer and making them into a pudding in the winter.

The wild flowers are beautiful and the berries delicious, but, commercially speaking, the forests are the asset of value. The total area of the forests and woodlands is estimated at about one hundred million acres. Of this about twenty million acres contain lumber suitable for manufacturing purposes, which is more than the area of South Carolina, and nearly that of Maine or Indiana. Of the remainder, one half is classed as woodland carrying some saw timber but on which the trees are small in size,



SPRUCE TREES, SITKA

scattered and valuable chiefly as fuel. The other tree growth throughout the Territory is mostly stunted in character, scrubby and of little value. Originally almost half of the surface of Alaska was covered with timber of some kind, but in some sections much of this has been cut away owing to the needs for fuel.

Practically all the merchantable timber of the Territory is now embraced within two national forest reserves, the Tongas, covering the entire southeastern archipelago, and the Chugach National Forest, extending along the coast from the Malaspina Glacier to Cook Inlet. The timbered areas in both of these national forests are chiefly on the thousands of large and small islands along the coast.

The timber is dense, as much as twenty-five thousand feet per acre having been estimated in some places. The Chugach Forest is deceptive looking, for the timber along the shore is often scrubby, with dead trees much in evidence. But in the forest, spruce two to three feet in diameter and one hundred feet high is found. A single tree will often cut a thousand board feet, and from ten thousand to twenty thousand feet per acre has been calculated as the output in some places. In southeastern Alaska, spruce six feet in diameter and two hundred feet high has been found.

The timber includes Sitka spruce, western hemlock, red and yellow cedar and a scattering of other kinds. The Sitka spruce is in great demand for airplanes. It is tough, pliable, light and free from defects. Quite a lumber industry has sprung up in this part of Alaska due to this demand. A number of new sawmills have been started and are filling large orders.

The timber of this region is also used for boxes, especially for the canneries, for furniture, piano backs, and oars for racing boats. Its greatest use, however, is for

paper pulp of which the world is at present suffering from a shortage. This industry could spring up in scores of places along the coast, prove profitable to its owners and greatly reduce the cost of certain essentials for the people of the States.

The forests of the interior consist of white birch, poplar, balsam-poplar, black cottonwood and aspen. The timber is small and is used mainly for fuel purposes and for building the log houses of traders and settlers. These forests are being rapidly decimated as they are the chief source of fuel for mining and steamboat needs. When Alaska's coal is opened up and transportation makes its available, these forests will have an opportunity to recuperate.

CHAPTER XIX

THE WILD ANIMAL LIFE

A GREAT GAME COUNTRY. CARIBOU IN ABUNDANCE. ALASKA MOOSE THE LARGEST OF ITS KIND. THE BIG KODIAK BEAR. BIRDS IN GREAT VARIETY.

ONE of the charms of Alaska is the wild animal life that roams so freely over the mountains, valleys and tundra, and the fish that leap so joyously in the streams. If the country had no wealth of minerals, no fertile valleys, no towering snow peaks, or beautiful rivers, its abundant and varied animal life would still be a lure. It is one of the most interesting chapters that nature offers here.

Of the larger animals it would be difficult to say which is the more abundant or best known. Honors could probably be divided among the caribou, the moose and the bear. The caribou is perhaps less generally known than the moose or the bear and, therefore, more interesting. It has been called the wild reindeer and in the records of the early explorers of Alaska was generally called reindeer. But it is not the reindeer of Norway or Sweden and which has recently been introduced into Alaska, though reindeer herders of the Territory have discussed the possibility of interbreeding their herd with caribou. The name is said to be a contraction or corruption of *caire baruf*, "square ox," a term applied to the animal by the French Canadians.

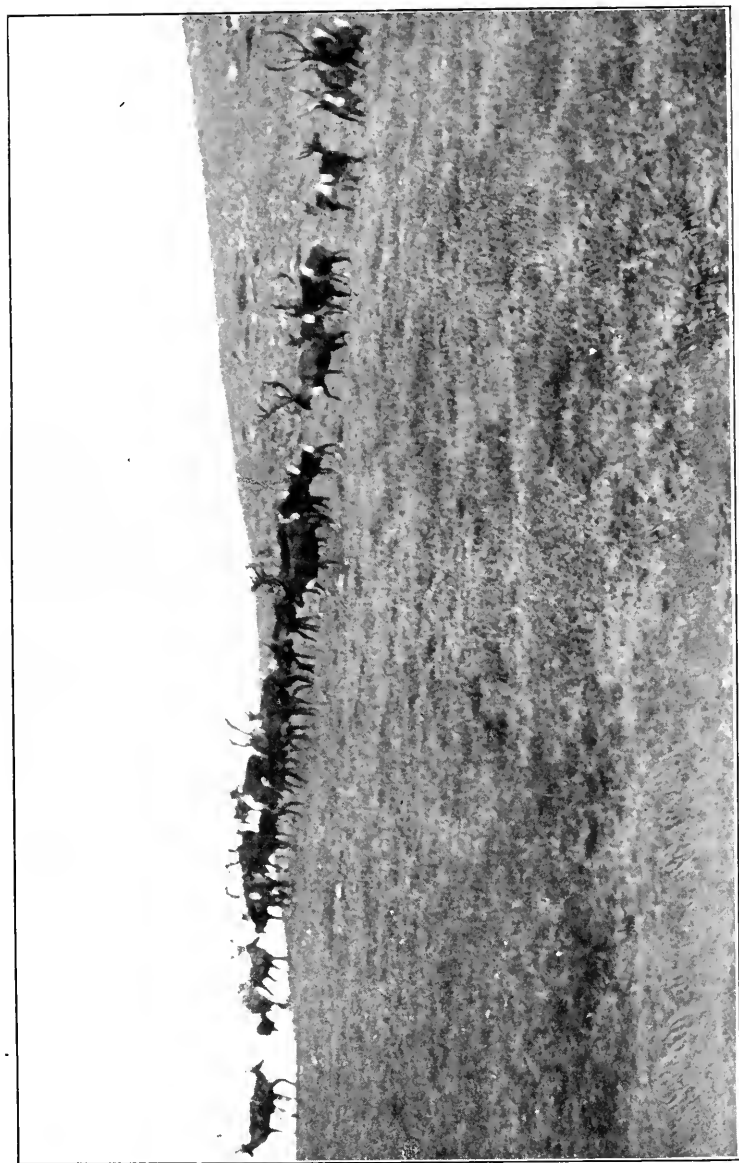
There are two varieties, the woodland, which is about four feet high and weighs between three and four hun-

dred pounds, and the barren ground caribou, which is much smaller. It frequents marshy and swampy grounds and is fond of ice-covered lakes. It lives on mosses, leaves, grass and lichens, and became known as reindeer because it eats what has been called reindeer moss.

The flesh is excellent as food and the tongue and kidneys are considered great delicacies. The hair is said to have floating qualities superior to cork. The Eskimos make coats and sleeping bags from the skin that are light in weight and impervious to the cold.

Stories are being circulated as to its extermination. But it still roams Alaska in countless herds. A miner within the year ran across a migration which he roughly estimated to number ten thousand. Others have seen herds estimated to number fifty thousand. At certain seasons they migrate and at these migrations follow certain well-known routes. These "crossings," as they are called, are known, and it is at these places where they are seen in their greatest numbers. A description of a recent crossing witnessed shows that these animals are as numerous as they were fifty years ago. "For forty miles we were running through one continuous mass of caribou," says this man. "The narrow valley and high bald mountains on each side all the way swarmed with animals. Never before did I have the slightest idea of what a herd of caribou signifies."

The moose of Alaska is of the kind to delight the heart of the big game sportsman. It is a tremendous animal, the largest of its kind, and is so big that it has been classed by itself as a separate species. It has a tremendous spread of antlers, a spread of from five to six feet being not uncommon. It is found in many parts of Alaska, the only exception being perhaps the southeastern section. Those of the Kenai Peninsula are the larg-



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A HERD OF CARIBOU

est in size. Tourists often have the good fortune to see one of these great animals swimming a small stream or across a cove or bay.

In color the moose is brownish, except the legs which are yellowish. It feeds in the early morning, again at noon and in the evening, its food being the leaves and tender branches of the birch, alder and such trees. In summer it is rather solitary, but in winter it gathers in small parties in what are termed moose yards.

The baby moose is a gentle, playful animal with large beautiful eyes and is often made a pet. In fact in almost every town in Alaska some one has a pet baby moose. As it grows older, it usually returns to the woods or is shipped by its owners to some zoölogical garden in the States.

Bears are so numerous in Alaska that in many parts they are a pest. It is doubtful if in any other part of the world they are found in such numbers and such variety. At least thirteen different kinds are said to be distributed over the Territory, though they fall under four general types, the brown, grizzly, black and polar bear.

The fame of the brown or Kodiak bear of Alaska has spread the world over. He is the largest of all known bears and is truly a giant in size. Measure for yourself a length of from ten to twelve feet, imagine if you can a weight of fourteen hundred to sixteen hundred pounds and you will get some idea of the Kodiak bear. His skin when spread out resembles in size a buffalo skin. Until these skins are actually seen one can scarcely believe bears of such size exist. But after viewing the plentiful number of these skins to be found in Alaska and visualizing as best one can the animal that has inhabited them, these enormous bears become a reality. They are as ferocious

as they are large. Many people have been killed by them, and the stories of narrow escapes are numerous. Cattle are attacked by them, and on Kodiak Island, where attempts are being made at cattle raising, many cattle have been destroyed. At present they are protected in this region by game laws for the benefit of the big game hunters, but Alaskans believe that these game laws should be repealed owing to the increase of these animals and the multiplying frequency of their depredations.

The grizzly bear is met with more often than is desired by miners and prospectors. He is found most generally in the mountains of the Yukon country and in the Mt. McKinley and Copper River regions and in the Kenai Peninsula. Silvertip is the name commonly given the Alaska variety from the fact that the points of his light gray hair are white.

The black bear is common and very numerous in nearly all parts of Alaska. He is seen prowling the woods, making his dinner off the luscious berries growing thickly there. Often while whirling along in an auto, one of these black bears will be seen lumbering off through the woods frightened from his meal by the machine. This black bear is, as a rule, inoffensive, and will not disturb one if not molested.

The glacier bear is a species of the black bear. It is found principally in the mountains of the St. Elias range but it is little known. It is hoary gray, resembling somewhat a silver fox, sometimes with a bluish tinge. Its nose is black, its feet brown. Its coloring has something of the gray-blue beauty of the glacier with its sombre touches of shadows and moraines and thus it gets its name.

The polar bear is found in the Arctic regions. One does not hear as much of it as of the other bears of



A KODIAK BEAR

Alaska. But it is quite numerous in the unfrequented parts of the Arctic, and according to Vilhjalmur Stefansson quite unafraid of man. Polar bears, lured by the smell of seal meat, came into his camp in large numbers and could not be frightened away. They had to be shot.

The mountain sheep and the mountain goat are other prized game animals of Alaska. They are not so easily hunted as the bear, moose and caribou as they haunt the higher mountain peaks. They are found in goodly number in the mountains of the interior. One section of the Coast Mountains is known as the Sheep Hills so numerous are the mountain sheep here, and it is a favorite hunting ground for sportsmen. The flesh of the mountain sheep is extremely palatable and is said to be far more delicious than that of the domestic mutton. It is claimed by those who know the Alaska sheep that it is very different from the bighorn of the Rockies and that though existing here for years has only lately been brought to the attention of scientists. As yet very few are in outside collections.

Deer are not generally abundant in Alaska. One species is found in the southeastern coast region, a small, shy animal that ranges from the sea level to timber line. At one time quite a number of these were to be found in the neighborhood of Wrangell. But throughout the Territory generally, deer are little found in comparison with other game animals. Lately some of the islands off the coast have been stocked with deer as a food measure.

There are some wolves, the big timber wolf being among them, but they are not much hunted. Far north in the Arctic region, the musk-ox is said to roam, but few authentic reports come of him in Alaskan territory. This animal is said to be very valuable both for its meat

and for its hair, or wool, as some call its coat, and as there are vast grazing grounds suitable for it in Alaska, its introduction and propagation as an industry, it is thought by many, would prove more profitable than that of the reindeer.

Rabbits, called low bush moose by the Indians, Arctic hare and other small animals abound.

The bird life of Alaska is quite as prolific, varied and interesting as the game. With the coming of the first warm days the birds begin to appear, first on the south-east coast and then gradually northward until the woods and streams and even the Arctic tundra are alive with the flutter of their wings and the melody of their songs. The long trough, if one may so call it, between the mountains of the coast and those of the interior along the western part of the continent make an unobstructed and pleasant summer route to Alaska for the birds. Across western Canada and down the Yukon affords another passageway. And so they journey northward in great flocks and add to life in the far Northland their beauty and songs and lively activity.

Perhaps no one welcomes them more than those living far north on Bering Sea or the Arctic Ocean. Here the arrival of birds in the spring is eagerly waited for and heralded with joy. The wild goose is usually the first to arrive. The ground is still covered with snow, the ice pack covers the sea to the far horizon. All is yet white and cold. But in the interior things are farther advanced, and from there some fine spring morning a wild goose starts westward and northward. High overhead he flies, exulting in the first breath of spring and uttering his loud calls. The first note brings white people and Eskimos to their doors and the shout goes up, "Goose! Goose!" and they know spring has come. The

little house birds do not arrive so soon, but some warmish morning when the snow is melting and little streams running noisily, a sharp, "Zip! Zip!" is heard, and the sparrows have arrived.

Miners and prospectors in lonely cabins welcome the birds as joyfully as do the dwellers by Arctic seas. One of them speaking of the first thrush of the season said: "I was in the mountains just a little way off the Yukon when suddenly a bird began to sing, the sweetest bird song I think I ever heard. It was clear and joyous like a bobolink, and strong like a robin, and sweet like a thrush. It began at first low and soft and grew louder and louder and stronger and stronger until it seemed to fill the air. I stood perfectly still enjoying it and trying to see the bird. Finally I discovered him on a dead tree. It was a thrush."

The thrushes are well represented in Alaska. One hears them in the thickets up the mountain sides at Ketchikan and finds them in many places during his journey throughout the country. Even at midnight during the season when it is light their songs will peal forth.

But many other old friends are here, the red-breasted nuthatch, the chickadee, the robin, the warbler, the finch, sparrows in variety, kingfishers, woodpeckers, wagtails and swallows. To the far north comes the longspur, a beautiful bird with head and breast jet black, white stripes back of the eyes, the back of the neck reddish, and the back black and brown. His song is suggestive of the skylark's, for he seems so full of the ecstasy of life that he must mount in the air to pour it forth. He rises slowly, pauses a moment, and then sinks gently down, pouring out his exquisite liquid notes. They are not so powerful as those of the lark but they are wondrously sweet and pure.

The jay does not forget Alaska and he is little better liked here than elsewhere. He is variously called whiskey jack, camp robber, moose bird and the like, and he is found well distributed over the Territory. A dweller in the Arctic tells of an encounter with one that bespeaks almost a sense of humor in the bird. The camper and his companion had made a fire of driftwood and prepared and eaten their breakfast close to a little patch of leafless, scraggly willows near the shore of Bering Sea. The bushes were stunted and little more than stems and branches and one would not think of a bird taking refuge in them. Breakfast over, the party launched their skin boat and started away, but with the first stroke of the paddle a shrill, exultant note sounded from the shore and made them stop and look back. There on the tip of the largest willow was a jay. Both his attitude and cries seemed to denote an impish delight in their present surprise and their failure to see him when within a few feet of them at breakfast. After seeming to enjoy their amazement for a few moments, he fell upon the scraps they had left and made his breakfast.

The dainty little humming bird is found along the southeast coast and sometimes in the valleys at the headwaters of the Yukon.

Alaska has many game birds. Chief of these is the ptarmigan, which is found well distributed throughout the Territory. There are several species, the largest being a good-sized bird weighing possibly a pound or a pound and a half. This has a large "meaty" breast and is good eating. The plumage of the ptarmigan in the summer is a mottled buff and brown. In the winter this changes to a snow white and when a flock of birds suddenly rises from the ground, the effect is that of an explosion of the snowy surface. In their winter dress the

ptarmigan are difficult to detect against the blank whiteness of the tundra and hills. They are such a valuable food supply for the far north that they should not be allowed to be ruthlessly hunted.

Birds of prey are numerous and include owls of various kinds, eagles and hawks. Ravens are found in great numbers. At Wrangell, Sitka and other southeast coast towns they are to be seen about the villages, and even as far west as Unalaska, they perch in large numbers on the roofs of houses and hop around among the chickens as unafraid as the fowls themselves. They seem to take great delight in flying, and enter with zest into aerial nose and dive and tail spins that would make a modern ace look like a neophyte. They will drop a long distance in a series of head over heels somersaults that make one dizzy to watch, finishing with a long glide on almost motionless wings. They seem to delight to take these spectacular flights during high gales as if revelling in the wind and the struggle with the elements. All the birds of a colony will gather and soar and turn and twist, uttering at the same time a medley of strange cries and croakings that makes the exhibition both weird and exhilarating.

The water-birds of Alaska are noted. If the Territory had no other bird life its water-fowl would still make it take a prominent position in the bird life of the country. In some places they literally swarm the coasts and islands by the millions. The cliffs of the Pribilof and Diomed Islands are thronged with murres, murrelets, auklets, cormorants and gulls, and when disturbed they fill the air with whirring forms that make the islands appear like some new kind of beehive.

The Aleuts eat auklets and catch them with nets much after the fashion of butterfly hunting.

Gulls are incredibly numerous all along the coast. They swarm about the canneries in the fishing season and are extremely picturesque perched in long sedate rows on the tops of the buildings. There are several kinds of gulls in the Territory, those of the Bering Sea and Arctic regions being the most distinctive. The large jaeger or skua is found here and has been called by the Eskimo the "cannibal" because of a tradition that at one time it ate men. The largest Alaska gulls are those that reach the far north and whose cry in the spring is most welcome to the seal hunter far out at sea on fields of ice, because they are the first birds to reach these far regions, and he knows spring is at hand.

Ducks are numerous, including the eiderdown, also swans, loons and geese. Among the geese is the beautiful emperor goose with its snowy head, dusky throat, and satiny gray body, each feather with a distinctive black and gray marking.

At times, especially upon the approach of a storm, these various water-birds join in a grand chorus. Thousands sometimes take part, and if some Wagner were only present to translate it into instrumental form it would make a majestic and impressive concert. The bugling of swans, the clanging of geese, the peculiar note of the loon, the calls of ducks, the cries of gulls and terns, the birds all apparently in a state of great excitement, make a medley of sound that melts into an harmonious whole of novel melody and beauty.

Asia contributes some birds that add to the interest of Alaskan bird life. Some twenty species of birds of the Old World have been found on the coasts of western Alaska. The golden plover, a curlew that winters in the Polynesian Islands, teal, sand-pipers, the Siberian red-spotted, blue-throated warbler, the tufted duck, the

Kamchatkan cuckoo and the Japanese hawfinch are among the number.

One bird of Alaska that attracts much attention is the tufted puffin. Sailors call it the sea parrot because of its gay headdress, but its frivolous headwear in no way makes it coquettish. It is an exceedingly staid, dignified bird and the contrast between its red bill and plumes, nodding like cap tassels, and its grave, solemn demeanor is almost funny. It spends much time standing absolutely silent and motionless before its burrows, and it rarely emits a sound except when caught and hurt and then it groans in a low, mournful fashion.

The plumage is darkish, but this sombre effect is relieved by the brilliance of the decorative touches. The face is white and is prolonged each side behind into long, waving feather horns of a rich deep straw color. The eyelids are a brilliant red as is also the large strong beak finished off at the base with a touch of green. The feet are bright vermilion. Truly gorgeous are these birds as they stand at the entrance to their burrows, for they make their homes and nests in tunnels three to four feet deep and so close together that an acre of ground will hold almost three thousand of these burrows.

The baby puffin is a real little puff ball of down and fat and it is thought that it is his appearance that has given the name, for he easily could be blown away, so downy is he, were it not for his too, too solid flesh.

The Aleuts capture these birds for their flesh and their tough skin, which is used for making the parka, the warm winter garment of the Eskimo. About fifty puffin skins, feather side in, make a garment almost impervious to cold.

CHAPTER XX

THE RICH MINERAL RESOURCES OF THE TERRITORY

THE GOLD OUTPUT AND METHODS OF MINING. VALUABLE COPPER DEPOSITS. THE COAL AND OIL SCARCELY YET TOUCHED. PRACTICALLY THE ONLY TIN IN THE UNITED STATES IN ALASKA. OTHER MINERALS IN VARIETY. THE BUREAU OF MINES AND ITS HELPFUL ASSISTANCE.

ALASKA is incredibly rich in minerals. Its gold attracted first notice, and for years held public attention, but to-day its copper and coal are coming prominently to the fore. But there are few minerals which Alaska does not possess. It is a great treasure house only a few doors of which have been opened and through these but the merest entrance has been made to the domain within. With the exception of a few large mining companies working with the latest machinery on an extensive scale, and this has been done only rather recently, mining in Alaska has been the work of the prospector with crude implements and the need of getting these and his supplies to his camp in the face of tremendous handicaps in the way of transportation. The fact so often stated that the surface of Alaska has only been scratched is quite true.

In spite, however, of the limited nature of the mining and the vast territory still unexplored, Alaska since its purchase has produced more than \$300,000,000 in gold, \$100,000,000 in copper and other minerals to bring the total close to, if not over, the half billion mark, and this, as has been said, from comparatively small areas, and in the main by primitive methods of mining.

Gold has been discovered in widely separated areas of Alaska. In fact there is scarcely any place in Alaska where, as the prospectors say, "colors" cannot be found. The Territory would seem to be one vast gold field. But it does not follow that gold mining is carried on in all parts of the Territory. The cost of transportation and the lack of fuel make mining unprofitable in many places in Alaska, and in many sections where gold is known to exist it is not being mined.

At present gold mining is being carried on at Ketchikan, at Juneau, at various places on the Yukon and north of the river toward the Arctic region, in the interior at Fairbanks, in the Kuskokwim valley, westward on the Kenai and Alaska Peninsulas, on the Seward Peninsula, and as far north here as Candle on the Arctic Ocean. This shows how widely distributed the gold is, for these mines are being worked profitably. The yield from the Fairbanks section in one year has been as high as \$6,000,000, and the total yield since its discovery there has been more than \$66,000,000. The output of the Seward Peninsula since gold mining began there has been more than \$74,000,000. So the tale could run from one section to another. Alaska, in its short gold mining history, has poured out a veritable flood of the precious metal. For it has been less than forty years since gold was discovered in paying quantity and only about twenty years since Alaska has been systematically and earnestly prospected for gold.

Gold was first discovered at Juneau in 1880, at Forty-mile in 1886, at Circle City in 1894, on the Kenai Peninsula in 1896. Then came the great discovery on the Klondike and the rush of miners to the country. The overflow from this poured into many parts of Alaska and thus the Fairbanks district, the Copper River region, Nome,

the Iditerod and the Koyukuk were eventually opened. But, as can be seen, Alaska is yet young in its gold production.

The greater number of mines in Alaska are placer, though the output of the few quartz mines operating almost equals that of the many placer operations. But placer mining, except dredging and hydraulicking, is the simplest and easiest method of mining and requires the least capital. The glittering grains and nuggets that lie in gravel sometimes in the bed of a stream or in the "benches" on the sides are the object of the placer miner's quest. He can secure them with so little of an outfit as a pan, though, of course, for work over any extended period of time he will need more implements of work than a pan.

The principle of placer mining is to wash out by water the gold that is mixed with sand or gravel. The gold, being heavier, sinks to the bottom and the other material is carried away.

Although a miner may get colors on a creek, to secure the gold in paying quantity he must go to bed rock, and this necessitates digging. On some of the creeks in the Klondike the creek bed was bed rock, which accounts for the remarkable amount of gold taken out in such short periods of time. The work was merely a matter of separating the gold from the waste material. But this condition seldom occurs. Usually bedrock must be reached by digging, and in some cases shafts quite deep must be sunk. The pay dirt is brought up by windlass and bucket, or by more improved methods of hoisting, if capital is sufficient. If the mine is in the side of a hill, the gold-bearing earth is brought out with cars and cable. It may be immediately washed, especially if the work is done by sluicing, or it may be piled up in what are called dumps.



PANNING FOR GOLD

This is the case if it is mined in winter. Sometimes it is necessary to build a crib about these dumps to enclose the dirt.

An improvement upon panning is rocking. This is still a primitive process, but it shows the originality and resourcefulness of the miner thrown upon himself in the wilderness for devices to hasten and shorten his labor. The rocker is merely a box with rockers on it like a cradle and a handle nailed on it with which to do the rocking. On the top is a screen to catch the coarser material while the fine drops through upon a slanting board when the motion of rocking carries it out at the bottom and the gold is retained on a ledge or cleat nailed on for the purpose. The water necessary for the separation of the gold from the dirt is poured in by hand. Many of these old rockers are to be found in the gold regions. On some, if wire screening was scarce, sheets of tin punched with big holes were used.

If a good supply of water is available the method most commonly employed in placer mining is sluicing. A box is made as long as space and materials permit with the top open and cleats or riffles nailed at regular distances apart across the bottom. Into this box the dirt is shovelled or dumped, water is turned in, and the earth, rocks, and all such material carried along by the force of the water to the opening at the end, and the gold which sinks is caught by the riffles at the bottom. The operation of taking the gold out is known as the clean-up and is the great event of the work, for it tells the tale of success or failure. Sluicing is perhaps the easiest, quickest and most profitable method of placer mining. Any one who can drive a nail or use a saw can make a sluice box, the dirt is shovelled in, and the water does the rest.

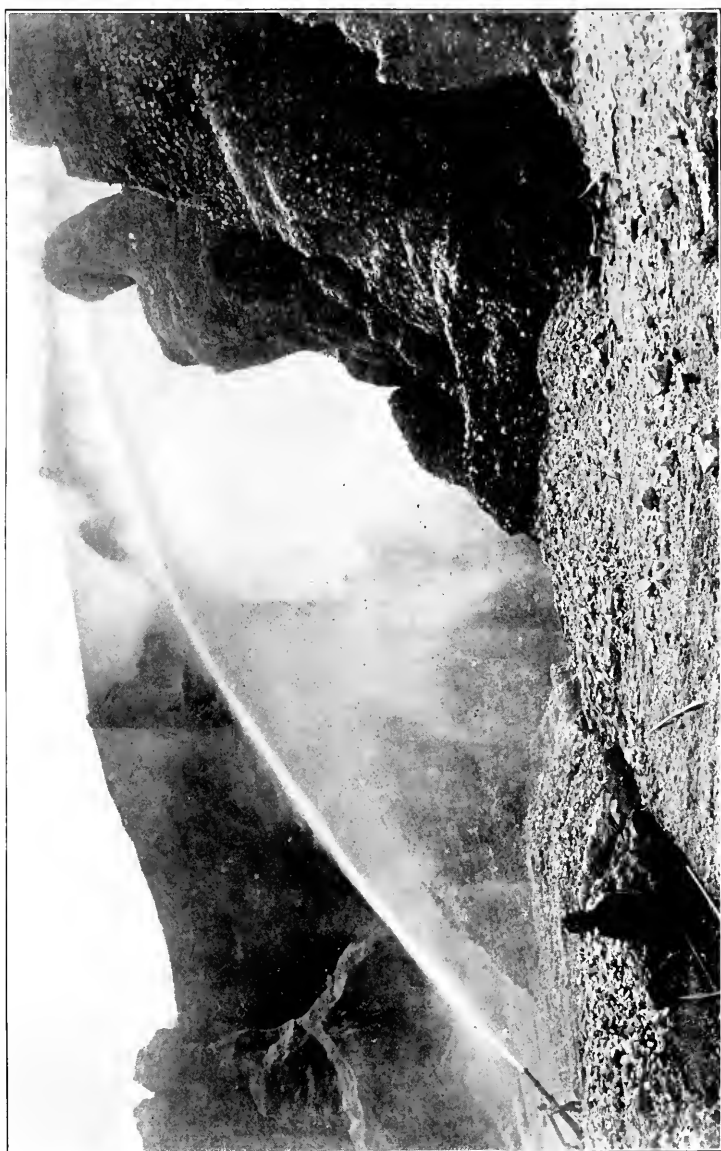
Dredging and hydraulicking are two other methods of

placer mining. But these require considerable capital. Gold dredges are expensive. Hydraulicking, though not so costly in itself, requires an enormous quantity of water with a tremendous pressure and this usually means the building of a ditch, which in Alaska is expensive. But both dredging and hydraulicking are being done in different parts of Alaska. Ores that will not yield profitable returns by the slow hand processes can be worked this way. As the cost of mining decreases through better transportation and lower priced fuel, many gold areas not being mined can be profitably worked by dredge or hydraulic.

In all this mining in Alaska the ground has to be thawed. This is done with wood fires built right on the ground, with hot boulders or with steam. Steam is, of course, used whenever possible, but a steam plant, even of the simplest kind, is again a case of capital and not all miners can afford it.

There are many quartz prospects in Alaska, but as yet quartz mining is not done extensively, as this method means a large plant and much machinery. The chief quartz mining is at Juneau in the mills of the Treadwell, the Alaska-Gastineau and the Alaska-Juneau mines. These mines, because of their output, are famous. Already this section alone has yielded \$75,000,000 in gold and some of these mines have only been working since 1915.

John Muir when in Alaska in the '70's expressed the belief that valuable quartz lodes would be found on the mainland east of Baranof Island and that the true mineral belt would follow the trend of the shore. His words have proved true, for though what is known as the Juneau gold belt is somewhat northeast of this island it extends for a distance north and south along the coast and in this belt much of the richest gold mining of Alaska has been



HYDRAULICKING

done. It is all quartz practically and from thirty to thirty-eight per cent of the gold output of Alaska is from this one section.

Gold was discovered at Juneau by Richard Harris and Joe Juneau in 1880. They discovered it in the mountains back of Juneau whence the Alaska-Gastineau and Alaska-Juneau mines now draw their ore. The discovery of the famous Treadwell lode on Douglas Island across the channel was made by a French Canadian, Pierre Erussard, known as French Pete. He was married to an Indian and lived on the beach near the Indian settlement, not far from the site of the present town of Juneau. With his wife's brothers and some other Indians he landed on the beach of Douglas Island one November morning in 1880, about a month after gold had been found by Harris and Juneau in the canyon near his home. It was, no doubt, the excitement of this discovery that made his gaze unusually keen. An outcrop of gold-bearing quartz on the hillside caught his eye. A little creek was trickling down the slope, its waters exposing the outcrop of white quartz. This little creek has long since been swallowed up in the famous Glory Hole of the Treadwell mine and its clear waters changed into a stream of gold. But here is was that French Pete, as he was called, made his discovery.

He received little benefit from it himself, but sold his claim to John Treadwell for \$505.00 to pay a pressing bill.

One month after French Pete made his discovery a handful of prospectors from Sitka on their way to the strike made by Juneau and Harris also landed on Douglas Island, attracted by what seemed to be the outcropping of a quartz lode. One of them scooped up a pan of gravel from the base of the lode on the beach and washed it out.

The find was so rich, the prospector excitedly shouted, "We have it, boys, almost the ready bullion!" They staked their claims and called the mine the Ready Bullion. It is to-day part of the Treadwell group and at present the only mine being worked. A cave-in has occurred in the other mines of the Treadwell Company and they are flooded with water. But the rich ore is still there and the company is hard at work devising plans to resume mining in them. The three which at this writing (1918) are not being worked are the Treadwell, the Mexican and the Seven Hundred. These with the Ready Bullion comprise the Treadwell group.

In the early days the mining here was all done in open pits or glory holes. The Treadwell glory hole became world famous because of the amount of gold taken out. But finally the depth reached became so great that underground mining had to be resorted to and that is the method employed at present.

Out under Gastineau Channel, over which the boats loaded with tourists sail so serenely, the ore is being mined, loaded on trams and sent to the shaft where it is hoisted not only the thousands of feet, for the depth reached is already twenty-eight hundred feet, but on up a half hundred feet more where it dumps itself with a tremendous crash and roar and rumble and comes tearing down chutes, being broken into smaller pieces en route, until it reaches the stamp rooms. Here stamp batteries that look like pipe organs in work clothes, for they are black and grim and determined and weigh twelve hundred pounds each, pulverize it, and on it goes to the concentration tables whose gentle rocking motion must be soothing after its rapid and violent journey. Here the sheep and goats of the mineral world are separated, the one to do much service for the world as a means of exchange, the

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other as refuse to go back in the mine to fill up the cavernous space made there by the dredging of the ore.

The noise in these stamp mills is indescribable. The voice has absolutely no power to make an impression. One can talk with all the strength he has but seemingly he makes no sound. The sensation is extremely odd. One knows he is talking with all his lung power, yet apparently no sound issues from his lips. John Burroughs says, "Niagara is a soft hum beside Treadwell."

The rock before it is crushed and made to yield its golden product is most ordinary looking. One would never suspect it of hiding anything of value within its commonplace exterior. Here and there one may see, if it is pointed out, a pin point of glittering material. But that is all. Yet the Treadwell mines alone have produced \$67,000,000 in gold. The ore yields but two dollars to the ton, scarcely worth working some might think. But the large quantity handled and the cheapness of operation make the work profitable.

The Treadwell mines are modern in every way. Far back in the mountains on the mainland a ditch brings water to a big electric plant where electricity is generated and carried on thick cables to the mines. Compressed air is used for much of the work. Water power and steam-generated electric power are also used. Crude oil is used for generating steam either for power or heat and the company has a storage capacity in steel tanks of one hundred and eighty thousand barrels. The annual consumption is about two hundred thousand barrels of forty-two gallons each.

In addition to the actual mining, many other activities subsidiary to the main business are carried on. The company maintains machine shops, blacksmith shops, boiler shops, sheet-metal works, a foundry and carpenter

shop and many others. It provides a lodging house and mess hall where excellent meals are served, conducts a general store and market and has built a number of cottages for employees in which steam heat, electricity and running hot and cold water are supplied. There are also a good library and a club house where are bowling alleys, a pool room and various means of recreation.

The methods in the big mines on the mainland, the one at Thane, the other at the southern end of Juneau, are a little different. The ore is mined back in the mountains and brought through long tunnels to the top of the buildings that seem to cascade down the mountain side. Here the ore cars are run into what look like huge iron cylinders but which are technically known as tipples, because by rotating they tip the ore out into bins beneath and then it begins its downward journey. It is fed into crushers with huge iron jaws and then into various other complicated machines, some of which look for all the world like huge meat choppers. Thence the large pieces go one road, the finer material another, till both again join on travelling conveyors to other crushing ore bins and feeders and ball mills where if not yet sufficiently crushed they are thoroughly pulverized. The ore then journeys to settling tanks and finally to the gently rocking concentration tables where the gold settles in one line, the silver, lead and iron in others, making very pretty color effects, and the waste material runs off by itself. There is much re-treatment in these mills so that nothing of value escapes except some iron which is not found in sufficient quantity to be worth saving by any present process. It is believed, however, that some method will be discovered by which it will be found profitable to save the iron.

These mines also have their workmen's homes, their clubs, and one has a big hydro-electric plant with a con-

crete dam one hundred sixty-five feet high and seven hundred twenty feet long on the crest, which permits the delivery of six thousand horsepower the year around. A second plant of twelve thousand horsepower is now under construction.

One of these mines can handle twelve thousand tons of ore a day and is planning to increase its capacity to twenty thousand daily; the other handles eight thousand tons, making a total of twenty thousand tons a day at present, which gives some idea of the amount of mining done in these groups alone and of the value of the products of this section. There are several other quartz mines in the vicinity of Juneau which though not working on so extensive a scale as these are still good producers and help make Juneau one of the most prosperous cities in Alaska.

There are quartz lodes in the vicinity of Fairbanks and on the Chandalar, north of the Yukon. Those near Fairbanks it is believed will outclass the product of the placer mines there. But quartz development in other parts of Alaska is waiting lower cost of transportation and fuel.

The large companies usually melt their own gold and mould it into bricks, but the individual miner is apt to take his dust to a bank, where he either sells it outright or lets them melt it and assay it and then pay him its value.

The government issues bulletins telling how to acquire mining claims and giving the latest legislation affecting them.

The copper of Alaska may prove even more valuable than its gold, for comparatively little is known of its copper deposits and of those that are known few are being mined. The average prospector is after gold, not copper, for gold will bring him immediate returns and can be mined if necessary with the crudest implements. Copper mining is expensive. It requires capital. Thus the

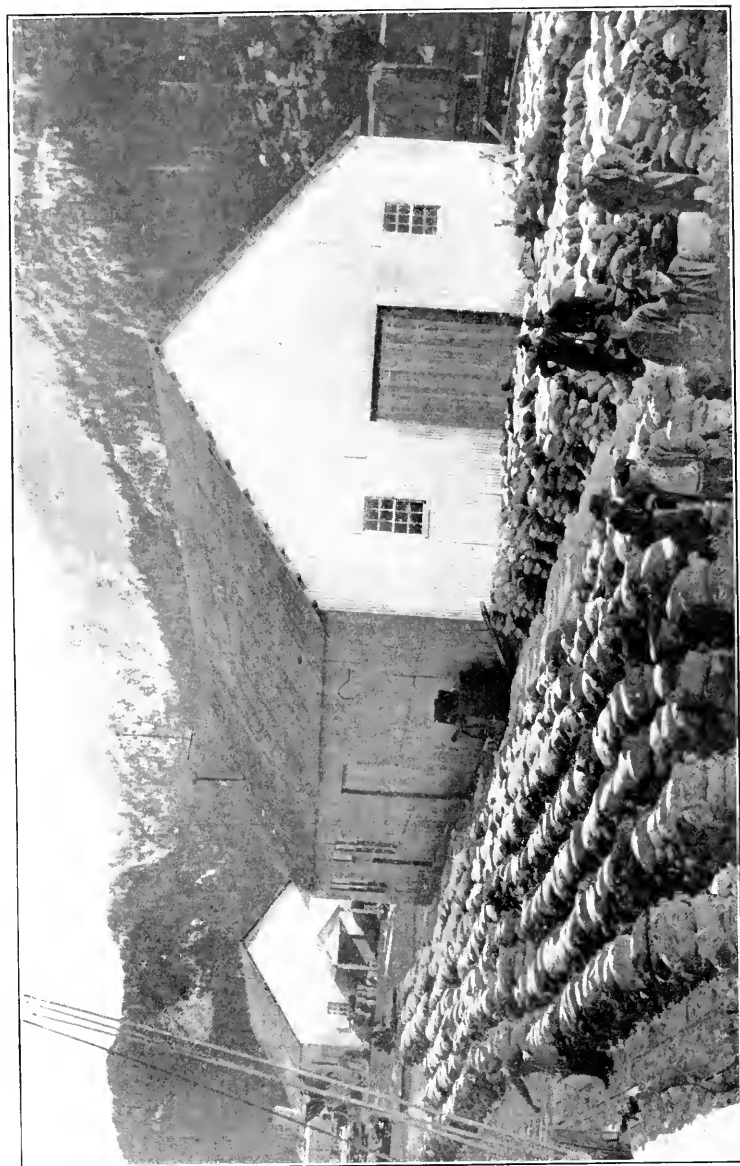
copper of Alaska has not had the attention from the only class that has so far penetrated the country to any extent as has its gold.

The presence of copper has, however, long been known. The Russians heard of it from the Indians but seemed to have little accurate knowledge of its location beyond the fact that it was in the region now known as the Copper and White River district. The Indian word for copper is Chiti, and many of the Indian names for the streams and landmarks of this section were compounds of this word, such as Chitina, Chititu and others.

During the gold rush days the miners that came in by way of Valdez, Cordova, or the Prince William Sound or Cook Inlet country heard tales of great deposits of copper. Some of those who struck across country for the Klondike or Fairbanks found copper. One of these reported seeing a sheet of native copper a half inch thick projecting a foot from the face of a cliff. Others reported copper nuggets ranging from the size of a pea to a pumpkin in the gravels of valleys. Veins twenty feet wide were seen extending for miles. Two men of a party sent to look for forage for horses saw a green stretch on a hillside which they took for good pasturage but when they reached it they found it was copper.

But no matter how rich were the finds, they were, in the main, inaccessible. These deposits lay behind barriers of high mountains, in among glaciers, with rapid turbulent rivers as the only thoroughfare, and so though some prospected and even took up claims little actual mining was done.

Then capital became interested, the Copper River and Northwestern Railroad was built and copper mining began. In one week in 1916, six ships left Cordova with copper ore valued at \$7,200,000, the price paid for Alaska.



COPPER AT CORDOVA, READY TO BE SHIPPED

But the work is yet in its very infancy. Though it is said there is a billion dollars' worth of copper in sight in Alaska, and though there has been found one nugget alone that weighed three tons, the cost of mining is so high that there has to be a large percentage of copper in the ore to make the work pay. All the ore at present has to be shipped to the States to be smelted. This means much re-handling and a long and costly journey. Therefore, only high grade ore can be mined. There is plenty of coal in Alaska suitable for smelters and it is right in the neighborhood of the copper deposits. When this is developed, as it quickly will be as soon as the government modifies some of its conservation policies, smelters will be erected and the great copper deposits of Alaska will pour their treasures out for the world.

At present the copper deposits of the Copper River Valley are the ones best known and most worked because of the railroad here. But the copper zone in this section extends east through the Wrangell Mountains to the White River and White Horse countries and westward to the coast and islands of Prince William Sound. It is estimated by geologists that if the copper deposits of the Chitina country were opened and all other copper mines closed, there would be enough copper for all the world's needs.

It is found also on Prince of Wales Island, in the neighborhood of Ketchikan, and on the islands of this locality. It has been discovered also on the Alaska Peninsula, in the Knik and Turnagain regions, and in various other places on the Kenai Peninsula. Up near the head of Chilkat River, which empties into the Lynn Canal, it has been found, and a belt has been reported southeast of Fairbanks in the Tanana Valley. But as has been said, nobody knows where copper may be found in Alaska for

it has not been looked for as assiduously as gold and nobody can hazard a guess as to its ultimate value, for even in some of these regions where it is known to be there are no transportation facilities whatever. To reach these sections with mining materials costs from five hundred to two thousand dollars a ton freightage. With such a handicap, copper deposits, no matter how rich, must remain undeveloped.

Alaska is rich in coal. The United States Geological Survey estimates more than twelve thousand square miles of coal deposits. In the report of the survey it is stated that, "It is probably safe to say that the minimum estimate of Alaska's coal resources should be placed at one hundred and fifty billion tons and that the actual tonnage may be many times this amount. These resources are far in excess of the original supply of Pennsylvania." And a great area of Alaska is as yet practically unexplored.

The most desirable coal fields so far known are in the Matanuska, Nenana and Bering River regions. The Matanuska section lies to the eastward of Anchorage and is reached by the government railroad. A small amount of coal is being mined here for the use of the Alaska Engineering Commission. The saving which the mining of Alaska coal will bring is shown by the fact that even this small amount of mining has reduced the cost of coal from sixteen and eighteen dollars a ton to eight and ten dollars. And this mining is but the very beginning, with neither transportation nor mining equipment on its most efficient basis.

The Matanuska fields are about seventy-five miles from Anchorage, which is an open port eight months in the year. But the government railroad runs from here to Seward, a distance of something more than a hundred miles, and Seward is an open port the year around, so that

coal can be delivered to tidewater here at any time.

The Bering River coal fields lie to the eastward of Cordova near Controller Bay. This bay has not good harbor facilities owing to shallowness, else these coal fields would be within twenty-five miles of tidewater. But they are only from seventy-five to one hundred miles from Cordova by rail and thirty-eight miles of road is already constructed.

The coal in both the Matanuska and Bering River fields is a high grade coking coal with some anthracite. A test of the bituminous coal of the Matanuska field for naval use was made and the report was that it was a very firable coal easy to burn, the volatile matter appearing to be fairly easy to drive off. The smoke was somewhat less in density than that of Pocahontas and not as black. The stokers, on being questioned, said it was the easiest twenty-knot run they had ever made. These bituminous coals are said to be of better quality than any found on the Pacific coast and are of special value for the bunker trade. As there is a scarcity of coking coal on the Pacific coast, this coal when mined will undoubtedly find a ready market and will not only mean a profitable industry for Alaska but a great help to the industries of the Pacific States. Its only competitor is the bituminous coal of Vancouver Island, but this is of inferior quality to the Matanuska and Bering River coal and so will not seriously affect its sale.

In both the Matanuska and Bering River fields there is some anthracite. But it is more or less crushed and does not produce a large percentage of lump coal. But there is practically no anthracite on the Pacific coast and the possibility of getting hard coal, even though not of the best quality, at the cost at which Alaska can produce it as compared with the cost of the eastern product, will find it a market.

The coal of the Nenana fields is lignite. This is not a coking coal but it is an excellent coal for domestic use. In fact, householders prefer it to bituminous, it is so clean. It can be handled without leaving any more trace of soil upon the hands than would glass. It will greatly reduce the cost of mining throughout the interior of Alaska and permit the working of low grade ores now undeveloped. Many other industries dependent upon cheap fuel will spring to life as soon as the mining and transportation of this lignite is under way. These Nenana fields are near the route of the government railroad and not far from Fairbanks and their opening means the prosperous development of all this section.

These coal fields are incredibly rich. By actual measurement of the United States Geological Survey seven veins have been reported, one above another, giving a thickness of two hundred and eighty-six feet. Others range from one to forty feet, and a careful summary estimates the coal in these fields as close to ten billion tons. It is easy to see what the placing of this coal upon the market will mean to the development of the rich resources of interior Alaska which are only waiting for transportation and cheap fuel.

But these three sections are merely the ones that have been most thoroughly surveyed because two of them are near the government railroad and the other, the Bering River field, is close to the Copper River railroad. But many other parts of Alaska are known to have their coal deposits, and when carefully investigated may likewise prove rich.

On the Kenai Peninsula coal has long been known to exist. In fact, a coal mine was worked here by Russians in the early days and later by a company of Russians and Americans. The geological maps indicate a larger area

than in any other part of the Territory, but little information is yet obtainable in regard to other data about it. Coal washes up on the beach of the peninsula in some places in quite sufficient quantities for the needs of those living there, and salmon canneries and fishing vessels get supplies in the neighborhood for their needs. It is reported by those who know the coast that in some places great ledges of coal are to be found in the bluffs and that one could secure all he needed from these ledges if an easier method of getting it were not already provided by the quantity washed up on the beach. As these deposits are on tidewater, shipping would be easier and less expensive than from the interior.

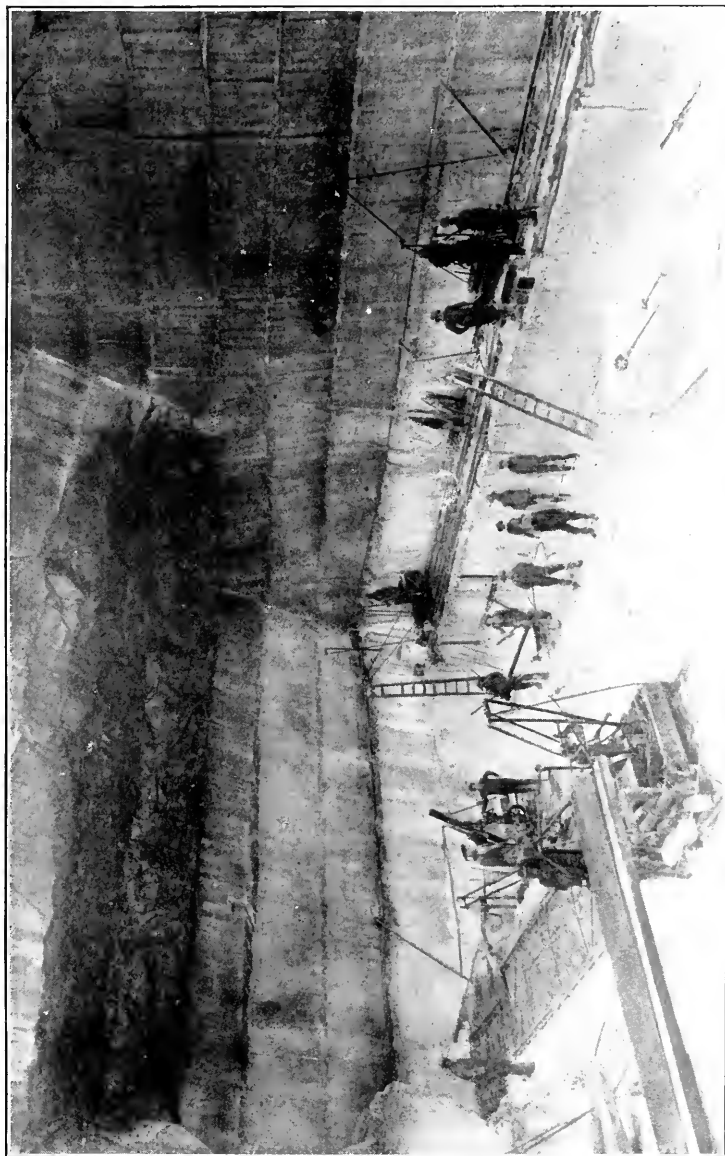
Coal has been found in the Seward Peninsula, as far north as the Arctic, in the country north of the Yukon and in the Kuskokwim country. In the Seward Peninsula a vein of coal one hundred feet wide has been discovered and probably there are equally rich finds yet undiscovered. It is believed by many that Seward Peninsula has enough coal for local use. Next to transportation, if not indeed equalling it, cheap fuel is the Seward Peninsula's greatest need. There is no timber worth the name in this section with the exception of the Council district, where there is some small spruce. All fuel must be brought in from the outside. When government regulations put the mining of coal on a more practical basis, the deposits in Seward Peninsula will be of great help in developing this section.

Another rich deposit of Alaska is tin. There are practically no tin mines in our country, yet the United States uses between forty and fifty per cent of the world's output of tin, so that the discovery of tin in Alaska brings another valuable asset to the country. The Alaska tin is said to assay higher than English tin and the deposits are claimed to be greater.

The metal has been found in the Seward Peninsula, near Fairbanks and in the neighborhood of Circle City. The Seward Peninsula is said to have the richest deposits. In one claim alone the quantity of tin ore in sight is valued at \$2,000,000. The chief deposits are in the York district, which is to the northwest of Nome on the coast of Bering Sea. This is a bleak, inhospitable region difficult of access for the necessary machinery for tin mining, but the determination and endurance of the Alaskan prospector are no better shown than by his conquering of the obstacles that here confront him.

The York Mountains, which are steep with sharp ridges and also bare of vegetation, bound the region on the east and the Cape Mountains on the west. Between lies the York Plateau, a tableland which is in reality an old marine bench. To the north, along the Arctic shore, stretches a broad, low tundra with many sand spits and lagoons on the coast and innumerable ponds scattered over the boggy lowland. It is not an inviting country and life here has few attractions, but despite hardships and difficulties tin mining is going forward. A few dredges are working, and hand and horse scraping and drag shovels are being used. It is more costly and more difficult to get supplies and machinery in here than at Nome for they must be transshipped at Nome to coast steamers. Then, when landed on this far northern, bleak coast, they must often be hauled by freight teams or poled in boats to their ultimate destination. It is costly to keep horses in this part of the world and the work of poling is laborious and slow. Consequently though there is a great need of tin and our country has little, these valuable deposits are not much worked.

Comparatively little is being done with the tin in the vicinity of Fairbanks, and nothing whatever with that



A MARBLE QUARRY

discovered near Circle City. These deposits are waiting for better transportation and cheaper fuel to be developed.

Marble is one of the deposits of Alaska that is coming to the fore, both for quality and quantity. Not only is a fine grade of white marble found but deposits have been found that have delicate tintings of lavender, a faint yellow, green and other tones. These lend themselves delightfully to unusual artistic effects in decoration and for this reason the Alaska marbles are winning high recognition among builders. They are used now liberally in all the buildings on the western coast from Seattle on the north to San Diego on the south, and their fame is penetrating eastward to the large cities of the interior.

So far, the principal deposits are found in the southeastern section, chiefly on the Prince of Wales Island. Here several marble quarries have been opened, one of them being owned by a Vermont company with very extensive quarries in Vermont and other States and works at Boston, New York, Philadelphia, Cleveland, Chicago, St. Louis, Dallas, San Francisco, Tacoma, Ontario and other places. The marble mined in these quarries resembles the Carrara marble, nothing superior to it being found in America.

Petroleum is another product of Alaska, but to just what extent it occurs is little known. All of Alaska's oil lands were withdrawn in 1910, with the exception of one small tract on which title had already been secured, and so of course all work in regard to this product has been stopped. The oil so far discovered is a refining oil similar to that of Pennsylvania with a paraffin base and but little sulphur, the type of oil more and more in demand as gasoline is a product of it. When Congress takes some step to throw these lands open the oil industry of Alaska will

become an important factor in the business enterprises of the Territory.

The oil seepages at present known are at Katalla, on Controller Bay; at Yakataga, to the east of Katalla; on Cook Inlet and on the Alaska Peninsula. All these are on the Pacific seaboard, which makes their development easy. Some seepages have been discovered on the Arctic coast but little is known of these.

The oil at Katalla is said to have been discovered by a member of a party on a bear hunt. Alaskans had heard stories from the Indians of strange black pools in this section but had paid little attention to them. This bear hunter, however, while after his game came near falling into a puddle of thick, black fluid, the surface of which was partially dried. He took some of it back to camp and tried it for building fires. A year later when in the same district he found a little spring of petroleum. He threw a match into it and a gusher of fire flamed out that set the whole country into a blaze and burned for a week.

These Katalla fields are about twenty-five miles long and from four to eight miles wide and skirt the north shore of Controller Bay. The field lies in part on the southern slope of a densely timbered highland whose summits reach from twelve hundred to two thousand feet above the sea, and also in part on the flats adjacent to the shore line.

Katalla is a small settlement at which freight can be landed from scows only during favorable weather conditions. But as this is also the region of the Bering River coal fields and as a railroad will undoubtedly in the course of time be run into them, it could be made to serve also the oil fields. Pipe lines could also be run to tidewater as there is plenty of timber available for structural purposes.

A small tract had been patented in the Katalla field

previous to the withdrawal of Alaska oil lands and this is being worked in a small way. This is the only oil production in Alaska at present (1918). This could be worked to better advantage were the field developed generally and transportation and other business facilities thereby improved.

In the Yakataga field, some eighty miles east of Katalla, the oil zone is about twenty miles long and from a half mile to two miles inland from the coast. A strong oil seepage has also been found about fifteen miles to the eastward. The Yakataga seepages are mostly in a series of short valleys separated from the coast by a low, wooded ridge.

The seepages on Cook Inlet are on the west shore about parallel with Iliamna Lake and are accessible from good harbors both north and south. South of them on the Alaska Peninsula in about the latitude of Kodiak Island are other seepages which were known even in the times of the Russians.

Owing to the fact that all these oil fields have been withdrawn little accurate data is available. But the oil is here — that is assured — and, without doubt, in the course of time restrictions will be lifted and it will be developed.

Chrome ore, used in the manufacture of steel, has recently been discovered and is being mined. This is a valuable discovery for the Pacific coast, because if steel could be made there it would mean not only a great industrial development which the coast needs but a reduction in cost of many important necessities. This ore is found on the Kenai Peninsula and also in the interior in the region between the Yukon and the Tanana Rivers. That of the interior is not being mined on account of the cost of operations but that on the Kenai Peninsula is mostly on tide-

water and can be profitably worked. The ore bodies here range in thickness from a few inches to about twenty feet and some of it averages fifty per cent chromic oxide.

Cinnabar has been found in the Kuskokwim country, a bluff in which are deposits of it extending along the Kuskokwim River for quite a distance.

Platinum has been discovered in small quantities in various places in Alaska, but as it is a metal not easily recognized by the average prospector, and not one that he has been on the watch for, there may be more of it in Alaska than is supposed. So far, it has been found in several localities in the Seward Peninsula, in the Copper River section, in the Kuskokwim country, on the Kenai Peninsula, and the Prince of Wales Island. These discoveries show a distribution running northwest and southeast and dipping south throughout almost the area of Alaska. As the tract north of the Yukon has been little explored and chiefly by those who probably would not recognize platinum, it may yet be found there. At present Russia is the principal producer of platinum, and the discovery of it in marketable quantities in Alaska would be of great value to the industrial world. Its present high value, about twice that of gold, has led to a careful search for it in Alaska and the announcement of important discoveries may come at any time. Late geological maps of the Kuskokwim country show a belt of rocks of the same age geologically as those which yield platinum in Russia, and as it is in this section of the Kuskokwim that specimens have been found in the sluice boxes of the gold miners there may be here valuable deposits awaiting only the eye of the experienced mineralogist.

There are, however, few minerals that are not to be found in Alaska. Antimony is being mined, but as it has

to be hauled by wagon to a small railroad which takes it to the nearest camp, or else by dog sled in winter, and thence by boat to the outside, its mining does not go forward very fast.

Tungsten has been discovered and is being mined and shipped out by parcel post. One thing must be said to the credit of the miners in Alaska. They seldom let difficulties get the better of them. By ingenuity, resourcefulness, or sheer grit, they put their products over.

Sulphur, lead, nickel, cobalt, silver, bismuth, molybdenum, graphite, barytes, have all been found and are being worked to some extent. The deposit of barytes is quite large and exceptionally pure. It is located on tide-water and can be easily developed. Heretofore the barytes used on the Pacific coast has come from the East and from abroad, but this deposit in Alaska promises to meet all future needs.

The Bureau of Mines at Fairbanks, and the establishment of a School of Mines there in connection with the Agricultural College, is of inestimable help to the development of Alaska's mineral resources.

The Bureau renders valuable assistance both to prospectors and those already engaged in mining. It makes qualitative analysis of specimens to enable the prospector to know promptly the kind of material that may be present in any specimen he may find. It collects data as to the mining and mineral possibilities of the Territory. It supplies information of the market price for ores and minerals. It has available for study a collection of minerals of economic importance and it maintains a reading-room and a library of mining books and periodicals.

Prospectors can send rock specimens from any part of the Territory to the Bureau and it will make tests to determine the kind of metal or minerals in them. No charge

is made for this service but it is desired that specimens brought or sent be accompanied by as much information as possible regarding the locality where found, the nearness to transportation, and whether the specimen is float or from a prospect hole or claim. In the latter case, the approximate amount or extent of mining operations such as shafts, tunnels or raises should be furnished, together with the size of the vein, the distance the ledge can be traced, an estimate of the approximate quantity of ore in sight and any other useful information of a general character.

When possible, prospects or mines from which specimens have been analyzed are examined by members of the Bureau when on their field trips, and by having this information available for operators or companies interested in exploratory work or searching for new properties, it makes it possible for the man with a small mine or prospect and the man or company with capital to come together. It is well known that the cost of sending an engineer from the States is so great as not to warrant it except for well-developed and promising prospects, but it is hoped that this work of the Bureau will, to a certain extent, take the place of a preliminary examination and furnish data in many cases to justify the trip of an engineer where it might not otherwise be thought of.

At the office of the Bureau in Fairbanks is a collection of more than a hundred minerals known to be or likely to be found in Alaska. This offers the prospector an opportunity to learn the appearance of some of the more uncommon minerals so that he may be on the lookout for them when in the field. The library contains a complete file of the bulletins of the United States Bureau of Mines to date, a number of publications of the United States Geological Survey, many books on mining, ore dressing

and kindred subjects, and useful information from the catalogues issued by the manufacturers of mining machinery. In the metallurgical laboratory is a full equipment of the most modern machinery for making milling tests of practically every kind of mineral likely to be found in Alaska.

The Bureau coöperates with any miner who is erecting a new mill or making changes in his present one, with a view to helping him increase its efficiency, and will also make a test run of his ore. No charge is made for this work.

The Bureau also makes special investigations looking toward the saving of by-products in placer work, particularly the fine gold and the values contained in the concentrate sands in the shape of tin, tungsten and platinum. Side by side with these studies are investigations in the cost of placer mining, the utilization of various methods of handling gravel, the study of methods and cost of thawing ground.

The members of the Bureau also visit various mining camps not only in the vicinity of Fairbanks but throughout the entire Territory to familiarize themselves at first hand with mining conditions and problems in Alaska. The work of the Bureau is for the whole Territory, Fairbanks being chosen as headquarters merely because of its central location and of its nearness to the railroad.

The establishment of the present station is due largely to the efforts of Mr. Joseph Holmes, a man of constructive imagination who was enthusiastic over the mineral wealth of Alaska and recommended a mining and metallurgical laboratory for the assistance of the prospectors and miners of the Territory. Dr. Holmes worked energetically upon the plans for the Bureau until his death, which was caused by exposure on a reconnaissance trip.

His dreams and sacrifice have given the spirit to the Bureau and it is carried on with the same eager desire to be of help to miners and of assistance in developing the mineral resources of the country.

The School of Mines, which is conducted in connection with the Agricultural College, is carried on along the lines of other schools of this character, except, of course, that special attention is given to Alaska's mineral wealth and mining problems.

CHAPTER XXI

ALASKA'S FISHING INDUSTRIES

SALMON AND THE VARIOUS METHODS OF MARKETING IT. HALIBUT AND COD. HERRING IN COUNTLESS NUMBERS. OTHER COMMERCIAL FISH AND BY-PRODUCTS. FISH FOR THE SPORTSMAN.

THE fisheries of Alaska run the minerals a close second in value, if, indeed, they are not already outstripping them. The salmon pack alone for the one year 1918 was valued at close to \$50,000,000. Yet this is but one of Alaska's fishing industries, and these industries at present, great as this one alone shows them to be, are scarcely started. Only twenty edible fish are being used commercially out of one hundred and twenty-five known varieties that swarm Alaskan waters. With these twenty making the showing they do, what the fisheries of Alaska will produce when developed to their utmost no one can conjecture.

The fish of Alaska have excited amazement from the earliest times. The first navigators of these waters, the Russian, Spanish and French, told in the narratives of their explorations of the incredible number of fish that swarmed the coastal shores and rivers. But as furs were the lure of these early explorers little attention was paid to the fish. Indeed, when it is considered that only twenty out of a choice of one hundred and twenty-five are being used, and of these effort is concentrated chiefly on one, the salmon, one might say that even to-day, one hundred and fifty years after these early explorers noted Alaska's fish, little attention is being paid to them. It

may have been the reports of the men first in these waters however that caused Secretary Seward when drawing up the treaty for the purchase of Alaska to make the wise provision, "The waters that surround the land are included in the transfer."

A great continental shelf extends along the coast of Alaska that makes a feeding ground for fish unequalled in the world. It is estimated that there are two thousand square miles of cod banks that one might say are almost untouched as compared with the fishing on other known cod banks, and, too, these are in a milder, pleasanter climate for fishing and there is less hazard from storms and icebergs than on the cod banks of the Atlantic.

Swarms of salmon leaping streams in such quantities that they crowd each other out on the shores are common stories. The same is true of the herring and the oolichan or candlefish. The herring has been reported in some places so thick for fifteen miles that windrows of them several feet high were piled on the beach dead. Of the candlefish, William Dall, director of the scientific corps of the Western Union Telegraph Expedition, says, "They were so abundant as to almost entirely fill the river. It was almost impossible to wade without treading upon them and they could be dipped up in large quantities with dip nets or even baskets."

At present the salmon ranks first among Alaska's fish, and salmon canning is the chief fish industry. "The Pacific salmon," says Dr. Hugh Smith of the United States Bureau of Fisheries, "are the most valuable fish not only in the United States but also of the entire western hemisphere. With the single exception of sea herring, the Pacific salmon are commercially the leading fishes of the world. The salmon have, in fact, been Alaska's most valuable contribution to the world's needs,



AN ACRE OF HERRING

exceeding in abundance and importance those of any other region."

There are five species of salmon in the Alaskan waters, the King, valuable because of its size, for it is often four feet long, and attains a weight of thirty pounds and more; the red or sockeye, liked because of its color; the humpback or pink, a trifle paler in color than the red; the silver, which is smaller than the other varieties, and the dog or chum salmon. Unfortunately, a prejudice exists against the dog salmon, because the natives feed it to their dogs and it is thought by many not to be an edible fish. Its color, too, is against it. But it is a palatable food fish, and now that its name commercially has been changed to grayfish, the prejudice may die away.

In the matter of age the salmon canning industry is almost a twin to gold mining, for the first salmon cannery was started in 1878 and gold mining at Juneau began in 1880.

Salmon are caught in traps, by trolling, by seines, by gill nets and a few by lines and dip nets. They are brought to the canneries by the fishermen usually in gas launches, for these little boats flit swiftly here and there over Alaskan waters in the fishing season like water spiders. From the boats the fish are tossed into a conveyor that carries them into the cannery. These conveyors are of various kinds, but frequently they are a long trough lined with shining tin and filled with sparkling water along which the fish float in silvery beauty until they reach a chute down which they slide to mammoth bins. These great bins filled with fish, often thousands at a time, are impressive sights.

From these bins the fish are fed into the Iron Chink, an almost human piece of machinery that cuts off the

head, opens and cleans the fish and then sends it on to a table where the final cleaning is done.

This work is by hand, Chinamen or Japs, sometimes American women, performing it. The workers wear gloves, and, if possible, rubber or waterproof coats or aprons, for this is the least pleasant part of the canning work. The labor must be done in running water, and as this is usually mountain water it is ice cold. A quick keen glance shows what needs to be removed, a few movements of a sharp knife, a rinsing in the clean water, and the fish again goes to a carrier that moves it swiftly along to a bin where a boy puts it into a hopper that feeds it to a cutting machine.

This machine cuts the fish into pieces of the right size for the cans and then these pieces go on to a machine that presses them into the cans. The whole process is deft, efficient machine work. The pieces of fish ready to be packed move on a carrier in a long line, the empty cans move side by side with them on another carrier. A piston rams the fish into an empty can, it moves on, the next can takes its place, and thus the filling goes on with the automatic precision and regularity of clockwork. A one-pound can is filled every second.

The filled cans are picked up by an operator and set on a carrier and away they speed to the steam box. Any can not full is set off en route by an inspector, filled on the spot by a worker with fish and knife and set back again.

The first cooking in this steam sterilizing flume is for fifteen minutes. After this the top is clamped on by machinery, another swift, automatic process, and then the cans are placed on trucks and wheeled to big iron retorts where they are cooked an hour and twenty minutes. After this comes the testing to see that each can

is correct in weight and air tight, then the shellacking to prevent the cans from rusting, and the labelling and boxing. In the course of a few weeks or months, these cans, with their legend of place and kind and quality, stand on grocery shelves ready to serve the public with delicious, nourishing food.

Aside from their machinery, the canneries are not expensive establishments. They are usually long, one-story buildings quickly and crudely constructed on the shore of some inlet or cove or near the wharf of some town. When not in a town the woods enclose them, the mountains rise steeply behind, and wild flowers and waterfalls add to the beauty of the environment. Gulls perch in long white rows on the roofs of the buildings or swoop down in graceful curves to the waters for the food that is being continually washed into it from the canneries for them. Small frame buildings or tents provide accommodations for the workers, though there is not a large working force and this is mostly Japs or Chinese. The work is done by machinery with a few keen-eyed deft watchers and manipulators of the machines and a small force to handle the labelling and packing, and a few clerical workers. Sometimes the labelling is done elsewhere.

Salmon are also mild cured, pickled, dried and smoked, frozen and shipped fresh.

In mild curing the fish are split down the middle, the head, tail and all fins except the pectorals removed, and the backbone cut out. The fish is then cut in halves, each of which is scored on the outside eight or nine times with the knife. They are then thrown into a cleaning vat, and here the inner side of each section is carefully scraped clear of blood and membrane with a knife, while the outside is thoroughly cleaned with a scrubbing brush.

The sections are then laid carefully inner side up in another vat partly filled with clear, cold running water or into a tierce partly filled with fresh water and cracked ice in which they remain for an hour. Formerly the fish were put into brine, but it has been found that ice water answers the purpose much better. After being thoroughly cooled, the sections are salted down in the tierces, each one being laid with its tail toward the centre. The fish are but lightly salted, and, owing to this fact, must be kept in cold storage until used.

The principal consumers of the mild cured salmon are those who smoke salmon, who take them from the tierce, wash them for a few moments and then have practically a fresh fish to smoke, and not, as in the days when hard pickled salmon were used, one that had lost much of its oil and flavor through the excessive amount of salt needed to preserve it.

The pickling of salmon is not carried on so extensively as formerly because of the increasing popularity of the mild cured fish, but it is, nevertheless, one of the permanent salmon industries of Alaska. A few of the pickling establishments also pack "bellies." This product is merely the bellies of the fish, which is the fattest portion, and as most of the packers threw away the rest of the fish this method has come under the ban of the law. As a result, bellies are only packed now when some economic use is made of the remainder. At some places where these bellies are used the backs are dried in the sun and used for fox food.

The smoking of salmon is virtually a continuation of the pickling, as the fish must be pickled before they can be smoked. A variation of the smoking process is known as kippering.

A smoked product known as Beleke is put up at Ko-

diak. The smoking must be done very slowly, two weeks being taken for it and only a small fire being used. On dry days the smoking house is partially opened and the wind allowed to blow through. There is a good demand for Beleke locally, but little effort has been made to extend the sale outside of Alaska.

The shipping of frozen salmon and of fresh salmon in crushed ice is also a profitable part of the salmon industry.

Salmon hatcheries are maintained both by the government and by individual canneries as it is recognized that the present enormous catch of salmon would soon exterminate them unless the stock is renewed. Two government stations and five private hatcheries are maintained. The annual capacity of these hatcheries is approximately 350,000,000 red salmon eggs, of which the two government stations handle 150,000,000. The private hatcheries are inspected from time to time by representatives of the government.

The work is under constant study and experimentation with the idea of improvement. At one station efforts are being made to rear the salmon to fingerling size before planting. The young fish are fed on raw salt salmon ground up after being freshened. The results obtained from the use of this food are better than when cooked food is given. It is also noted that the young fish thrive better in the hatching troughs than in the rearing ponds. At another station the adoption of the incision method for taking red salmon eggs has been tried and found to be an improvement.

The Fish and Gun Club of Juneau also are making efforts along lines of their own in regard to salmon propagation. They believe that the closer the natural course is followed the better. Aiding nature seems to

them preferable to radical departure from such methods, and they are experimenting with planting eggs in the sand or gravel to conform with natural hatching. They are experimenting in several other fields, one of which is to see if fish cannot be hatched from eggs now wasted under the Iron Chink. So far they have effected a saving of five per cent which, if the cost of doing this is not too great, is worth while, as otherwise these eggs are absolutely wasted at present.

Halibut ranks next to salmon in the fishing industry of Alaska. This fine, big, white-meated fish is growing more and more in favor and Alaska waters teem with it. So numerous are they that at first they were fished for simply from wharves. Becoming scarce here they were found in quantity in the Inland Passage from Ketchikan to Skagway. But the demand increasing, the fishermen finally went to the halibut banks, which extend as far west as Kodiak. Twenty million pounds a year is a conservative estimate of the catch. The banks of the Atlantic produce less than five million. The Alaska halibut are shipped now to many parts of the United States. For packing this fish the Alaska halibut fishermen have the ice ready at hand in the bergs that break off from the glaciers in many of the regions where the fish is to be found.

Cod fishing in Alaska is climbing steadily into importance as a business. The banks lie off the Aleutian Islands and the southern and northern shores of the Alaska Peninsula. On these southern shores the cod fishing of the Pacific is much pleasanter than the same occupation in the Atlantic, for the climatic conditions are more favorable. Several new industries are springing up in connection with the cod fishing, such as the packing of flake codfish and a method of treating and

packing similar to the canning of salmon. Both of these have proved successful. In the main, however, the fish are merely salted and shipped to the States for further treatment.

Herring fishing as an industry may be said to have scarcely started. Herring swarm Alaskan waters till they suffocate and are found on the shores dead from this cause. They are so thick that the Indians catch them by means of nails driven through laths with which they beat the water and rake them into their boats as fast as they can lift the stick. The Alaska herring, too, is unusually fat. No lard or grease of any kind is needed in its cooking. Yet they are used for little but bait for halibut fishing and for oils and fertilizer.

The herring fisheries of Scotland and Norway yield these countries millions of dollars annually. A recent report from an American consul in Norway shows that in four seasons the catch had an average annual value of \$6,600,000. The herring resources of Alaska are superior to those of Norway, yet the average annual value of Alaska's catch is but \$252,000. The imports of cured herring into the United States are heavy, yet fish the equal, if not of a better quality, swarm Alaskan waters, and it is reasonable to suppose could be put on the market for less than the imported variety.

A few are awaking to the possibilities of this industry. Norwegian capitalists have already established a big plant in one section and several other firms have started the Scotch method of curing herring, and their products are finding a ready market and commanding higher prices than other herring. By the Scotch method the fish are more carefully selected and more thoroughly cleaned. They are packed more carefully, are not repacked, and they have very little pickle on them.

Kipperd herring as a canned article is also one of the new products of the Alaska fisheries. The herring when delivered at the cannery are spread on the floor in a thin layer and sprinkled with salt, where they remain until such time as the cannery workers are ready to clean them. The fish are then placed on tables around which are gathered women who dress them. After being cleaned, they are immersed for a short time in a salt solution. The herring are then taken to the smoking-room and hung by the tails on sticks studded on both sides with rows of sharpened nails. These sticks when filled with fish are placed side by side and tier above tier in the smoke house where they are exposed to alderwood smoke over night. During this process all surplus moisture drains from the body cavity and surface of the fish and the natural oil commences to appear. While in this condition they are packed by hand in cans. The cans are then sealed and cooked for about two hours in boiling water heated by steam.

Another fish that will come to its own in time, though as yet it is little known, is the oolichan, eulachon or ulikon as it is variously spelled, or the candlefish as it is popularly called. It is one of the most delicious small fish that swim the sea. It is a silver fish resembling a smelt, and is tender and fat. In fact, it is one of the fattest of all known fish. The amount of fat in it is so great that it cannot be kept in alcohol for scientific purposes. It is the oil in it that has made it such a popular fish with the Indians. They made quite a ceremony of catching it in the olden times. The chief fishing grounds then for these fish were on the Nasse River in British Columbia, and many tribes came hither for the fishing. The first fish caught was addressed as Chief and certain ceremonies were gone through in his honor. Then the

regular fishing began. The fish were caught in a sort of wicker basket. The oil was extracted and used for food somewhat as we use butter. The fish, when dried, were also used for lighting purposes. Sometimes a wick was stuck in, sometimes the fish was merely fastened in a standing position and lighted. So full of oil is it that it burns with a steady light and serves the purpose of a lamp or candle.

These fish crowd the waters as thickly as do the herring. "The water when filled with them looks as if it were boiling," says one traveller who has seen them. In an hour or so a woman living near Skagway tossed with her hands out of a small stream on her place enough to fill a large barrel.

At present they are not used commercially, except in a purely local way by restaurants and hotels and by some of the steamers on the Alaska run. But the person who puts these fish on the market either fresh, smoked or tinned will not only reap a rich harvest but will have blessings called down upon him by all fish lovers.

The Atka mackerel is another fish not yet known commercially. It swarms through the passes of the Aleutian Islands, where the natives go out in boats and fish for it with a long pole on which is a hook. One native anchors the boat by holding on to pieces of kelp and the other catches the fish. So numerous are they that a boat load can be secured even in this primitive way in a few hours.

Whaling is now done almost altogether from shore stations by means of swift vessels driven by powerful engines. The killing is done by guns mounted on the bow. Compared with this industry in the early days, however, the returns to-day are small. The whalers of New England were the great hunters. They came in the

early '40's and nearly exterminated this giant cetacean from the waters round about the Aleutian Islands. Then they penetrated the Arctic. As many as six hundred whaling vessels have been in these northern waters at one time. In these early days the whale was killed with the harpoon and the capture of one was exciting sport. The Aleuts hunted them in their skin boats and killed them with ivory-headed spears, which proves the skill of these natives both as boatmen and spearmen.

Whale oil is always in demand commercially, the skin is now being used, and glue and fertilizer are among the by-products, so that whaling is by no means an unprofitable industry even though it is not so extensively carried on as formerly.

During the war the beluga or white whale, as it is called, was brought forward as a source of meat supply. Those who tried it said it was tender, nutritious, without fishy flavor and had very little waste. It needs to be camouflaged with a more attractive name, for whale steaks do not sound appetizing. But, despite this handicap, it may in time become one of our sources of food supply. An experienced sea captain of Nome who knows this fish well says of it, "Each fish contains a thousand pounds of meat, a barrel and a half of oil, and has a hide convertible into the finest leather in the world. It lives upon smaller fish and abounds in the waters off Alaska. Although the beluga is from twelve to sixteen feet in length, it can be caught in nets. It is easily salted or canned."

The walrus is valuable for its ivory tusks, its hide, and it, too, has been suggested as a source of meat supply. It abounds in northern Alaskan waters and the Eskimos have always utilized it.

Other fishing industries are in their initial stages of



A DAY'S CATCH OF WALRUS

development. An enormous amount of shellfish is to be found along the Alaskan coast, and the canning of clams, shrimps and crab meat is starting. The clams in the vicinity of Cordova are unsurpassed for quality and beds covering an area of approximately thirty square miles are to be found in this region. Canneries have started here and this promises to become one of Alaska's successful industries.

The clams are removed from the shells by immersing them in boiling water either in vats especially designed to receive the wire baskets in which the clams are placed or by passing the clams through the water on an endless belt. After remaining in the water several minutes the clams are thrown on a table and the shells fall away from the meat. The clams are then passed on to workers who open the stomachs and necks, remove the sand and sediment therefrom and sever the black part of the neck. The cleansing process is continued by placing the meat in a cylindrical perforated washing machine. Any sediment that may have remained after the hand operations were completed is thus removed. The clams are now ready to be canned and are taken directly to the filling tables if whole clams are to be packed, or to the grinder if the clams are to be minced. The cans are filled by hand with both meat and juice, after which they pass through the topping and sealing machines. The process is completed by cooking in retorts.

Crabs of excellent quality are found in many places, but so far have been used almost wholly to supply local demands. Some shipments of crabs have been made to Seattle, and, no doubt, before long this industry will be developed extensively.

Extensive deposits of mussels are to be found in the waters of Alaska. Mussels are used as extensively in

Europe as oysters are in this country and when an American trade develops in mussels Alaska will afford a profitable field for this industry.

The shrimp business is also beginning. Certain waters in the southeastern section are known to yield shrimp of excellent quality and large size and the utilization of these shrimp in various ways has started.

Mud sharks, which are found in the waters between Juneau and Petersburg, are being caught for their skins, which are utilized commercially, and for the oil to be obtained from the liver.

Little attention has been given to the utilization of fish eggs, though they abound. The Indians have long made use of this abundant source of food and dry considerable quantities of roe, the product being stored for winter use, when it is pounded between two stones, immersed in water, and beaten with spoons into a creamy consistency. Or it is boiled with sorrel and different dried berries and made into cakes.

Plants have been established at various places for the making of fertilizers and feed for chickens and stock from some of the waste of the various fishing industries, especially from the canneries. All these are minor industries however, though they hold promise of development, for the resources upon which they are built are almost unlimited. They simply have not received attention because it has been focussed upon Alaska's great fishing industries, salmon, halibut and cod.

Anglers find sport that delights them in Alaska's streams. Trout in variety are to be found in unlimited quantity. The kinds include the Rainbow, the Dolly Varden, the Cut Throat, the Lake, in fact almost every known kind. It is said that in the Mt. McKinley country trout weighing forty pounds are caught and it is usually

the big fish that get away. However, the fish of the McKinley region may be trying to live up to their neighborhood. In the Norton Sound region a cannery has been started for trout.

Pickarel and grayling are plentiful, and in the sea waters black sea bass and flounders. In the Kobuk region, to the north of Norton Sound, the shee, one of the finest fish in the world, is caught. It weighs from ten to eighty-five pounds and is caught in winter with a hook through the ice and in summer in nets. Its meat is as white as that of the halibut and very fat and has a delicious flavor. Catfish and whitefish also abound in this region. Another fish of these Arctic stretches is found in the bogs and ponds of the tundra. It is somewhat akin to the frog in its habits and freezes up in the winter. It is found in the moss, and stories are told by prospectors and miners that by thawing the moss the fish come to life and thus delicious fresh fish is secured by what might be called indoor fishing.

But even with allowances for the fisherman's imagination, the fish story of Alaska is one not to be matched for value and abundance elsewhere in the same area. And when the fishing industries of these waters reach their maximum development the tale will truly be one to astound the world.

CHAPTER XXII

FURS IN RICHNESS AND VARIETY

FURS, ALASKA'S FIRST LURE. THE SEA OTTER EARLIEST SOUGHT.
THE FUR SEALS. OTHER VALUABLE SKINS. FOX AND OTHER
FUR FARMING.

It was the rich, beautiful furs of this great north country that first attracted the covetous eyes of the world to it. The fish were noted but passed over. The minerals were practically unknown. But the treasures of furs that were brought back by the first comers soon roused world-wide attention and trappers and traders began to pour in, by boat around Cape Horn and from the shores of Asia from Siberia to India, and across the continent from the East. Washington Irving has said that two great commercial pursuits were the pioneer precursors of civilization on the Western Hemisphere, the search for gold and the traffic in peltries. Alaska has had both, but the fur trade was the first. And in her furs Alaska has been as prodigal as in all her other resources, and in these early days poured a golden harvest into the lap of these pioneer traders.

The first to gather of it were the Russians, and the fur sought in the beginning and harvested so richly was the sea otter. The finding of the sea otter in almost countless numbers was like the discovery of a new gold field. The skins were bringing almost fabulous prices in China, and for a time the Russians had the field almost to themselves. But the news spread, and by 1792 a score or more of vessels, under the flags of many nations,

were sailing up and down the coast hunting the little animal and trading for his skin with the Indians.

The fur of the otter is a rich, lustrous dark brown or black, silvered or frosted with the white tips of longer, stiffer hairs. These are removed when the skin is dressed, leaving only the thick, soft, downy under fur with its deep, shadowy brown-black coloring. These skins at times brought from two hundred to five hundred dollars each in Russia, and when this rich treasure house of them was discovered on the shores of Alaska, the Aleutian Islands and the islands of Bering Sea, danger, hardship, disease and death were intrepidly braved to secure a share. If the methods of getting them had been more worthy, if less greed had been manifested, one could admire this band of fur hunters that sailed from the shores of Kamchatka in all kinds of vessels to seek their prey. But they were ruthless in their onslaught, cruel to the natives, and in the course of time almost exterminated both the sea otter and the one-time happy, light hearted Aleuts. Their descent upon the sea otter was a spectacle of rapacious greed and inhumanity.

The sea otter is a solitary animal and one not easy to capture. When in the water it shows but the tip of its nose, except when asleep, when it sometimes lies on the surface of the waves, or when playing, for then it will lie on its back in the water tossing pieces of seaweed from one paw to the other or playing with its young. To bring forth its young it will go to some solitary rock, but at other times it seldom visits land. It is quick of hearing and acute of smell.

When hunting it the Aleuts paddled out in their light graceful skin boats to those parts of the near-by waters which the sea otter most frequented. Here they noiselessly formed a line, the boats gliding over the water

like shadows, for at the least sound the otter disappeared. When a little nose was seen sticking out of the water, the Aleut who saw it hurled a dart, at the same time elevating his paddle as a signal to the other hunters. Immediately the end of the line closed in to form a circle, each hunter watching keenly for the reappearance of the animal. When he came to the surface a dart was again thrown, and this operation was continued until the animal was captured. The one who threw the first dart obtained the skin.

At present the sea otter is practically exterminated. In the course of time it will no doubt come back commercially and if properly protected then will again make its contribution to the beautiful furs of the world.

This story of ruthless extermination was almost repeated in regard to the fur seals, which are also found in these waters. Gerrassim Pribylof discovered these animals on the islands which now bear his name in Bering Sea to the north of the Aleutian Islands. For a time the Russians hunted these as recklessly as the sea otter, but the herd became so greatly reduced that finally, after the Russian-American Company came into control, the killing was restricted. When the United States took over Alaska, the islands after a year or so were leased and certain restrictions made as to the number of seals killed. But the decrease in the herds still continued. Some claimed that the decrease was due to indiscriminate killing by the leasing companies, that is, that the females and "pups" as the young seals are called, were killed. Others maintained that it was due to poaching and open sea or pelagic sealing by which the seals when on their way north to rookeries or off the islands feeding were killed. This pelagic sealing was most destructive. The seals were shot from open boats, and as only the head of the

seal can be seen in the water, females ready to bear young were killed, as well as seal mothers, and the pups were left to starve, for the seal mother will feed no baby seal but her own. Counts made of the dead and starving young seals showed that thousands perished in this way. It was also wanton slaughter in other ways, for many of the seals shot could not be recovered.

This pelagic sealing was done by Canadians, Japanese and Americans in schooners, and even by natives in canoes. The matter finally became so serious that the government took it up and a treaty was made by which pelagic sealing was abolished, and the United States and Russia agreed to pay Great Britain and Japan fifteen per cent of the product of the land sealing conducted by each and the Japanese agreed to pay the United States, Great Britain and Russia ten per cent of the revenue of the herd under her jurisdiction. The Government also took over the islands. The herd and all the business connected with its care are now managed by the Government. A further law was passed in 1912 that for five years no seals should be killed except what were needed as food for the natives, and the surplus of bachelors, as the young males are called. A fleet of revenue cutters is maintained with headquarters at Dutch Harbor to see that these laws are not broken.

Under this careful constructive management the herd is increasing and in the course of time will return to the numbers that made it such a source of wealth to the Russians in the early days. Even with all this reckless destruction and mismanagement it has returned to the Government since the purchase considerably more than ten millions dollars and this has more than paid the cost of Alaska.

The Pribilof Islands are the summer home of the seals.

Just where is their winter resort is not definitely known. But early in the spring they are found in the Pacific headed toward Bering Sea and from the middle of June to the early part of July they arrive at the rookeries, where for the next four or five months they make their home and bear their young. The rocks of these islands which the seals have scrambled over for years are worn smooth and polished and the sound of their barking can be heard for miles out to sea. There are three cries, when angry a bellow like a calf, when calling to each other a milder cry, and when tired and hot a piping whistle. They come in herds of thousands to these islands, and the rocks and hills are black with their numbers. Their food is the fish to be found in the waters thereabouts. The lines of the body of the seal are soft and flowing and their movement is described as like that of a man in a bag.

The male seal is polygamous and maintains a harem, and many bloody battles take place as to whom shall dominate the harem, or by some lonely bachelor seal making a raid and endeavoring to start a harem of his own. There is always a large number of these bachelor seals, and it is these that furnish the skins for commerce. Females and pups are not permitted to be slaughtered.

When a killing is to be made several hundred are separated from the main herd and driven slowly into the interior of the island. As a rule, the seals are timid and follow each other like sheep, so that if quietly and gently done this separation is not a difficult matter. They must be driven slowly, for they soon tire, and when tired they cannot be made to proceed. Those that tire and refuse to go on are killed and skinned at once.

The killing is done with a club. The animal is struck



SEALS ON PUEBLO ISLANDS

on the back of the head where the skull is thin and then while unconscious stabbed in the heart and bled. The skin is separated from the blubber by a few dexterous movements of a long sharp knife. As seal skins will spoil in a few hours, they are taken at once when skinned to salting houses, laid out flat, one skin upon another, in bins or on benches, the salt being spread thickly over each pelt. They remain in these salt bins for two weeks, when they are taken out and rolled pelt to pelt in bundles of two skins each, strongly corded and packed in casks of from forty to fifty skins each and shipped. The skins when received in the States are sold at auction and the money deposited in the Treasury. At one time the Aleuts were paid only ten cents a skin.

The sea otter and the fur seal were the first fur-bearing animals of Alaska to attract attention, but the country is rich in many others and the Hudson Bay traders that came across the country from the east reaped a rich harvest in these.

Foxes are numerous. The black fox, the most prized of all, is now seldom captured wild, but the red, the cross, the silver, the blue and the white are caught in quantity.

The mink is also found abundantly, thirty-two thousand of these rich, lustrous brown skins being sent to the States recently in one year. The fur is soft, dense and mixed with long, stiff, glossy hairs. It shades from a light yellowish brown in the poorer kinds to a rich chocolate color.

The fur of the wolverine is not sent so much to the outside as other skins, for it is used by the natives to trim their parkas, especially the hood about the face. This fur does not collect on it the ice or frost from the breath as other furs do, and it is, therefore, greatly valued for wear in the winter by those compelled to travel.

The animal itself is heavily and clumsily built, has thick, stout limbs and walks with its back arched and head and tail low. It has a thick, woolly under fur and a top coat of long, coarse hair, in color blackish brown with distinct bands of chestnut brown through it. It is so voracious it has been termed the glutton. It is sagacious and difficult to trap, is a natural born thief and will steal and hide articles for which it has no use. It is very destructive and will tear to pieces anything it can get hold of, even if it has no desire to eat it. Many tales are told of the havoc wrought in cabins and caches by wolverines, of flour bags rent and the flour tossed about, of articles of wearing apparel torn, of everything within reach being destroyed if possible. So that the animal is sought not only for its especially useful fur for these northern latitudes, but to get rid of its destructiveness.

The lynx is quite numerous and has a soft, rich, thick fur, pale in color. The lynx is shy, dwelling in deep forests and bush country, where it preys on birds, hares and other small animals. The fur is shipped out in great quantities.

The tiny white skin of the ermine or stoat, the only true ermine, is among Alaska's fur products. This little animal haunts stony places and impenetrable thickets and lives on small animals.

Marten, called by some American sable, is found. Muskrat skins are among the big yields. The beaver, though at present giving small returns, was in the early days very numerous and was the standard of value of the Yukon Indians.

Bear skins are also in demand for robes and rugs, and also deer, caribou skins and mooschide for various commercial purposes.

In nearly all Alaskan towns, and in many of the road-

houses on the trails, furs are on exhibition and for sale. It is quite worth while to see these skins even if there is no intention to purchase, for they are both interesting and educational. They are not made up for wear, but are just as they come from the hunter or trapper and one gets to see some exquisite and beautiful skins. Alaskan furs are thick and beautifully colored, and in these collections one will come across skins as beautiful in their own distinctive way as are jewels, so exquisitely have they caught the colorings of the animal's environment. In the thick, soft, lustrous fur you see the black and white depths of winter woods warmed with the glow of the sun, the grayish shadows of snow-swept spaces, the brown of dead leaves reddish in the sun's beams. Through these colorings you glimpse the haunts of the animals, and as these skins are direct from the animal's natural habitation, the eye secures a valuable training in recognizing the genuine in furs.

The money to be made in furs has induced some to take up fur farming. At first the effort was confined to fox farming, but now the raising of mink and marten is being undertaken. Altogether there are about one hundred fur farms in the Territory. It is not a business for those who want to get rich quickly as the profits at first come in slowly. But if a careful study is first made of the habits of the animal to be farmed and the work is carried on along scientific lines, the business is in time productive of a steady income.

Fox farming was the first work of this kind undertaken and the original effort was made on islands, as the initial expense is less and the task of caring for the animals is easier than when kennels and enclosures have to be made. The foxes can roam freely over their island home and it is thought that the fur of animals from farms

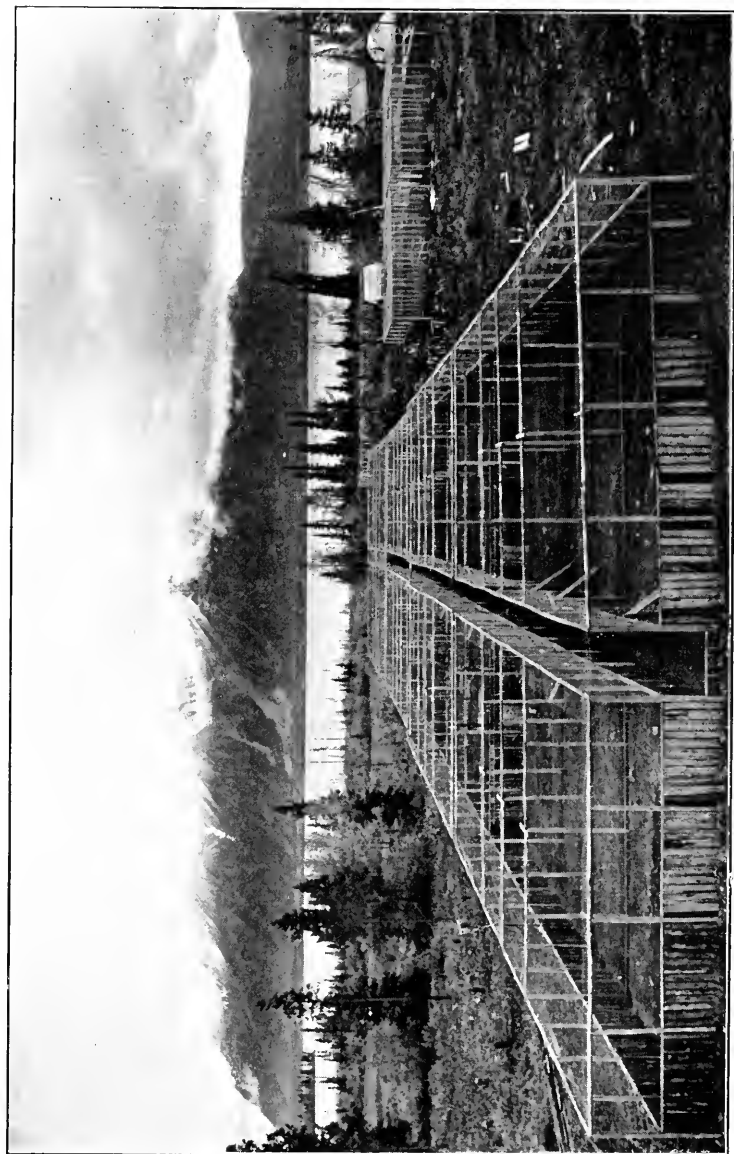
of this character is better than from those where the animals are penned up.

Islands for fox farming can be leased from the government, and as there is usually plenty of natural food on these islands the expense of maintenance is small.

But, the industry once started, it was taken up on the mainland, and now on the Yukon, the Tanana, and in many parts of Alaska, fox farming and other fur farming is going on.

When done on the mainland suitable quarters must be made. Soil, climate and location should be carefully considered when choosing a fox farm. Limestone or alkaline soil will make the fur brittle and harsh. It must be remembered, too, that a fox delights in scratching and digging, but if the dirt is not soft and pliable, his feet become sore and this condition will eventually result in his death. A forest covering of spruce, fir, pine or cedar is desirable.

The fox ranch may be from half an acre to five acres in extent and should be enclosed with a stockade fence ten feet high and with an inner wire of the same height so arranged that the foxes cannot burrow underneath or climb over the top. Kennels should be large and roomy and contain dens where foxes can sleep and make their nests. If these kennels can be made two stories in height so much the better. The lower part should be compact and tight and the upper part open at both ends, where the foxes can lie in good weather and sleep in the air and sun. Foxes need plenty of sunshine and wind to keep them in good condition. They must also have plenty of runway or they will not fur properly. If kept in restricted quarters or penned up in small enclosures the pelt or hide will be thick and the fur thin. Natural conditions should be duplicated as far as possible.



A FOX FARM

It must be remembered also that wild animals when placed in restraint and subjected to unusual sights and sounds are nervous. Great care should be taken to avoid anything that will startle them. Foxes are especially nervous and will go for days with their young in their mouth, putting them first in one place and then in another until the pups die from exposure and handling. For this reason it is not an easy matter to see a fox farm, for the owners do not wish any one about. Although the animals become somewhat accustomed to their keepers, even these men are careful not to disturb them any more than is necessary. One farm was seen where the owner had built a sort of observation tower on the roof of his own house from which he could watch the foxes so that he need not go to the corral any more than was absolutely necessary. It seems to be a fixed fact that the less the animals are disturbed the better.

Ideas as to the right food vary, for this work is yet largely in its experimental stage and fur farmers are trying out various things. On the islands the animals as a rule secure their own food from the fish and birds there, but in the corrals they must be fed. Some farmers give a diet consisting almost entirely of fish, in the summer smoked salmon or other fish, but no salt food, and in the winter fish from which all blood has been removed. Other farmers feed fish, bread, milk, eggs, rabbits and even poultry. It is generally conceded that a nursing mother fox should get plenty of eggs, milk and porridge.

The hope for increased profits in fox farming lies in improving the stock by selective breeding, so the farmer should retain the darkest and most valuable animals and sell only the poorer ones. There is a temptation not to do this, as the finer skins bring more money, but it is the wisest course until a fine stock is secured. As the black

and silver foxes are the most valuable, these are the ones receiving the most attention, but the other varieties are also bred.

Uncle Sam is himself in the business and on the Pribilof Islands foxes are being raised and the skins shipped annually for auction in the States. Only two kinds are being bred, the white and the blue. On St. George Island the foxes are caught in a large box trap and those which should not be killed can be released. But on St. Paul Island the foxes cannot be trapped and no selection can be made of those to be killed.

Mink farming is not so far advanced as fox farming, but some Alaskans have undertaken it with good results. It is hardly possible to tame an adult wild mink, but young mink can be domesticated. By nature mink are solitary wandering animals and they cannot be reared successfully in captivity if large numbers are kept together. Their enclosures should be large and as far as possible like those of their wild state.

Where artificial corrals must be made the pens should be five or six feet square, the sides of smooth, wide board cut four feet long and set up with the lower end resting on a footing of stone or concrete eighteen inches in the ground. The floor of the pen should be the bare ground. The pens can be built economically in groups of four or more. The sides can be of heavy wire netting instead of boards, but in that case the top would need to be netted or the animals would climb out. Boxes about two feet by a foot and a half should be provided for nests. They should have hinged lids so they can be opened and examined and be provided with straw or hay. The boxes may be outside the pens bolted to the fence and about three or four inches above the ground. The boxes should be as dark as possible.

Some mink farmers say that the best steady food for minks is bread and sweet milk, corn mush and milk, or corn mush cooked with bits of meat in it. The animals should have meat or fish about twice a week. The feeding pans should be kept clean and the animals fed only as much as they will eat at each meal. The animals should have but one meal a day except those that are suckling young. The food should not be salted.

Other ranchers believe the mink should be given only meat and fish. All these matters are really yet subjects for study and experimentation. The real secret of success for any kind of fur farming is a genuine love of animals, which will lead to a thorough study of their habits and a conscientious care of them.

CHAPTER XXIII

THE AGRICULTURAL POSSIBILITIES OF THE TERRITORY

FARMING IN RUSSIAN TIMES. MINERS AS FARMERS. GOVERNMENT INTEREST AND ESTABLISHMENT OF EXPERIMENTAL STATIONS. WHAT CAN BE GROWN IN THIS NORTHLAND. THE AGRICULTURAL COLLEGE.

AGRICULTURE is one of Alaska's resources about which there is without doubt the greatest ignorance and the strongest prejudice. The gold of Alaska the world has heard of. Furs are expected from a cold country. Knowledge of its fisheries is beginning to penetrate. But agriculture in an Arctic region? Impossible. And the assumption is dismissed with a feeling of pity for the person harboring such a delusion. Even when barley and wheat four and five feet high are shown, turnips weighing twenty-one pounds, strawberries of a delicate flavor unknown in the States, and celery crisper and more delicious than the famous output of Michigan, are produced, skepticism still prevails and these articles are regarded suspiciously as if they were the work of some wizard purely for the occasion, and the assertion is still stoutly made, "Agriculture will never amount to anything in Alaska. How can it when frozen ground is reached within a foot or two of the surface? Can you grow things on ice?" This last statement is supposed to settle the matter.

It is said that when some of the Russian scientists who accompanied the early expeditions returned to Petrograd and told of flowers and vegetation growing on the gla-

ciers they were looked upon as the precursors of what in later years have been politely termed nature fakers and that it was only the favor of certain high officials at court that prevented their being sent to jail, there to meditate as did Columbus, Galileo and others before them, upon the unwillingness of the human mind to accept new ideas. But as the sage of Denmark has observed, "There are more things in heaven and earth than are dreamed of in your philosophy, Horatio." Flowers and vegetation do grow on the glaciers in Alaska, and agriculture is not only a possibility but an already demonstrated actuality, and this despite the fact that much of the soil is frozen within a foot or so of the surface.

To paraphrase a certain well known remark, "Why should it be thought so strange a thing to farm in Alaska?" Norway and Sweden in the same latitude have many farms and support a population of more than ten million people. In Norway there are about two hundred and fifty thousand farms and wheat, rye, barley, oats, potatoes and such crops are successfully raised. According to recent statistics ten thousand acres of wheat yielded two hundred and fifty-five thousand bushels, thirty-four thousand acres of rye, seven hundred thousand bushels. The potato crop runs from eighteen million to thirty million bushels. The horses, sheep, goats, swine, reindeer and other cattle number in the millions. The financial returns from the butter and cheese alone are \$37,520,000.

In Sweden half the population support themselves entirely by agriculture. There are some three hundred and fifty-six thousand farms, and in one year nine million bushels of wheat were raised, twenty-one million bushels of rye, fifteen million bushels of barley, eighty million bushels of oats and six hundred and eighty-three million

bushels of potatoes. The value of the various crops ran up to almost half a billion dollars.

Yet the Scandinavians in Alaska, and there are many of them there, say that the conditions for farming in Alaska are better than in their native country and that the soil is richer.

High latitude is not necessarily a bar to farming, as these figures show. But in regard to farming in Alaska, latitude is not the only factor to be considered. Climate plays a far more important part, for the climate of the Territory is not the usual climate of this latitude. The Japanese current bathes the coast line with warmth and moisture, making the climate in this part of Alaska not unlike that of some of our southern States, and high mountains enclose interior valleys, giving them a temperature not unlike that of Canada. These things need to be remembered as well as latitude when considering the agricultural possibilities of the Territory.

But accomplished results are more to the point than climatic or geographical statistics, and agriculture has been one of Alaska's industries since the early settlements of the Russians in 1784 and thereabouts. Despite the fact that implements and cattle had to be brought across Siberia to the western ocean and then shipped to the coast of America, gardens were planted and butter and cheese made in Alaska one hundred and fifty years ago. Both at Kodiak and Sitka farming and cattle raising were part of the occupations of the people.

When the United States took over the country there was no thought of agriculture as one of the industries of the Territory. Had any one suggested it, probably a lunacy commission would have been promptly suggested to sit on him. The Homestead laws were not extended to the country for thirty years and then they provided

only for homesteading on surveyed lands. As there were no surveyed lands the extension was a farce. Ten more years passed before the right to homestead unsurveyed lands was granted. In Oregon, three years after it was made a territory surveys were made, though in some sections the survey posts rotted away before settlers came. With the discovery of gold in Alaska settlers came with a rush, and had there been proper legislation in regard to the land no doubt by this time agriculture in Alaska would be far more advanced than it is to-day, both to the advantage of Alaska and the country at large.

But despite the ignorance and indifference that held back the development of the land, individual settlers here and there saw agricultural possibilities, and just as in California many who came to mine took up ranching, so in Alaska those who failed to find gold started in to raise food for those who did, or in other cases supplemented their mining with farming. Little farms and truck patches began to spring into being in the neighborhood of the mining camps and they were found so profitable that their owners gave up mining and devoted themselves altogether to their farms.

One of the successful farmers at Haines began in this way, intending to supplement his mining on a neighboring creek with a strawberry patch. "I soon discovered, however," he says in discussing his business, "that I could make more money out of growing strawberries than I could out of my mine and I quit the mining and devoted myself to my ranch." He has a prosperous farm, and at the Exposition at Seattle in 1909, his strawberries took the gold medal over all the exhibits from the Pacific coast.

Many others were like him and reports began to reach the government of what was being accomplished. As a

result, special agents were sent to see if agriculture in Alaska was practicable. Their report showed that there was at least one hundred thousand square miles adapted to agriculture in some form. It was realized, however, that for farming to go forward most successfully it was necessary to study the special conditions to be met and experiment stations were established in various parts of the Territory. Professor C. C. Georgeson, an experienced agronomist, was placed in charge with headquarters at Sitka. These stations are doing most helpful constructive work and agriculture in Alaska is now on a basis where it should prove successful and profitable.

Professor Georgeson, who has been called the plant wizard of the North, is sanely enthusiastic over the agricultural possibilities of Alaska. He knows it has a future agriculturally in certain lines and these lines he wants to bring to their best and fullest expression. He does not hold out promises of untold riches to agriculturists nor of easy farming. But he does say that if farming is done in line with Alaska's limitations it can be made to pay, can supply home markets, and be a useful feature in Alaska's development.

Both by early environment and by training, Professor Georgeson is well fitted for the problems that confront him. He was born in Denmark and was a student of agriculture on several large Danish estates. After this training he came to America and took a B. S. degree in the Michigan State Agricultural College and later taught in various state agriculture colleges and in the Imperial College of Agriculture in Japan. He is one of the world's greatest experts in the cross breeding of plants and he has bent his energies and talents to evolving varieties suitable to low temperatures.

He has a corps of trained and enthusiastic helpers who

are eager to bring agriculture in Alaska to its best development and who patiently and earnestly study climatic and soil conditions in various parts of the Territory and experiment with vegetables, fruits and grains to get those best adapted to conditions there.

Stations are established at Sitka, Kodiak, Matanuska, Fairbanks and Rampart. The work at Sitka is confined principally to experimentation with fruits and vegetables. Kodiak is given over chiefly to cattle raising and dairying. Fairbanks takes up farming in general, and Rampart is devoted chiefly to working out problems for the far northern farmer, for Rampart is in the shadow of the Arctic Circle. The station at Matanuska has only recently been established. This is the section of the government railroad and as there are promising agricultural possibilities in this region and as it is one that will be developed the soonest, both on account of the demand for agricultural products and because of the help transportation will give, it was thought wise to establish a station here to render all assistance possible.

At Sitka a small acreage is cleared and here the work of studying the fruits and vegetables best adapted to Alaska goes forward. Perhaps the most famous product of this work is a hybrid strawberry that is becoming widely known for its delicious flavor but which has a quality equally desirable in Alaska, hardihood. To secure this strawberry about fifty different plants were taken and crossed with the native wild strawberry. From the result of this experiment seven thousand plants were taken, each with some special characteristic, and experimented upon until about forty varieties were obtained. The berries are large in size and have a peculiarly delicious spicy flavor reminiscent of the best of the cultivated varieties and of the sweet tang of the wild berry, and are

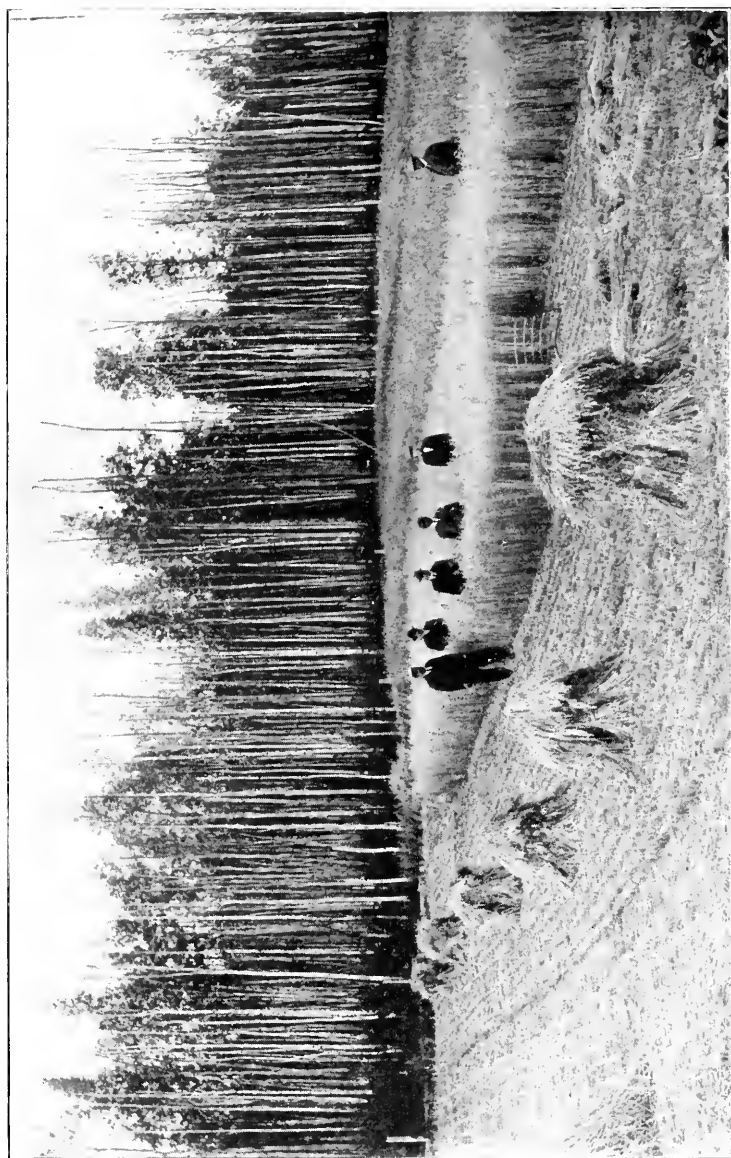
hardy enough to stand Alaskan winters. The securing of these results was a long and tedious process and required infinite patience. But Professor Georgeson and his associates have all the untiring enthusiasm of the scientist and no effort is considered too great if it will help produce the desired result.

Experiments have also been made in regard to fruit trees, but so far these have not been successful. Cross breeding has been done with early, hardy apple trees of the northern States and with a native crab-apple, but the results are not palatable for eating. Cherry trees do not yield well.

The work at the Kodiak Station is devoted mostly to the study of the cattle suitable for Alaska and to dairying. Experiments have been made to develop an all-purpose cow and also a cow suitable for the coldest interior parts of the Territory. Galloway cattle were selected as the stock that would best fill all requirements, for the Galloway cow needs less protection than other breeds, owing to the heavy coat of hair that has developed through two hundred years and more of outdoor life in the Scotch climate. This cow can also stand rough usage, a point to be considered with present means of transportation in Alaska, and she has no horns, an advantage in crowded quarters. The meat and milk are good. It is believed from these Galloway cattle a strain can be developed that will meet all requirements in Alaska.

For the most severe parts of the interior a cross between the Galloway and the yak is being considered. The yak belongs to Thibet, where the winters are severe and life strenuous. He is the ox of that country, is a meat producer, and grows a coat of hair that will resist extremely low temperature.

At Rampart experiments are made toward evolving



FIELD OF GRAIN ON THE GOVERNMENT EXPERIMENTAL FARM AT FAIRBANKS

the hardiest grains and vegetables in a short season. Barley, oats and alfalfa are tested out here as well as some vegetables. A special study of soils and fertilizers is also made here, as the soil of the Yukon valley is different from that of some other parts of Alaska and needs special treatment.

The work at the Fairbanks station is more general in character and may be said to be more representative. The farm here is quite large and as it is located in what is considered Alaska's biggest and richest agricultural section, the great Tanana Valley, the work at Fairbanks is adapted to meet a large and diversified need.

The farm lies about six miles from Fairbanks and is reached by the Tanana Valley Railroad, now a part of the government road, and also by an auto road which affords a beautiful ride through tracts of brilliant wild flowers, stretches of spicy spruce woods, and, on clear days, with views of the distant snow-capped peaks of the McKinley Range, against a vividly blue sky. The farm buildings stand on a pleasant southern slope with a birch woods back of them and a great chain of snow mountains bounding the horizon in front.

The work done here is to increase the grains that have been produced at Rampart and to demonstrate the feasibility of farming in Alaska generally. This station endeavors to foresee the problems that await the Alaska farmer, to work them out and thus to be ready with practical advice and help when the farmer needs it.

About one hundred acres are under cultivation, devoted to the work of testing and developing various grains and vegetables and to raising small crops of those that have so far proven the best. The crops raised are distributed in small quantities among the farmers of Alaska as seed and in some cases sold. The selling of the

crops is, however, not a permanent feature of the work. Present conditions sometimes make it necessary. It is not intended for the experiment stations to enter into competition with the settlers and when there are sufficient farmers to make this unnecessary it will not be done.

The farm is a living book in agriculture in which every little section is an interesting chapter. In the various testing plats for instance the seed from a single head of barley or oats or wheat is planted and a stake with all necessary information upon it is placed at the head of the row. The growth of every little plant in the row is carefully watched and when all come to harvest the seed of the best is taken. All the data about it are carefully recorded and the following year this seed is planted and the process is repeated until heads that bear splendidly are secured, when possibly an acre plat will be planted with this, and if the result is as expected this seed will be distributed. This process takes from three to four years and requires innumerable and careful records, for the seed of each head that is kept and planted must have its statistics. When it is remembered that this is done with many varieties of oats, wheat and barley, that potatoes are studied in the same fashion, that experiments in the rotation of crops and soil fertilizers are also carried on, it can be seen how busy and interesting a place this is. One of these experiments that started with a half teacupful of small Russian wheat yielded in the fourth year two hundred and sixty-five bushels. Two heads of hulless and beardless barley produced by the same process forty-six ounces and a handful of Canadian oats resulted in sixty-nine bushels to the acre in three years.

Potato growing in Alaska was not for a time a success as the potatoes were watery. The Alaskans refused to buy them, preferring to pay the higher cost of outside

potatoes. The experiment station took the matter up, discovered that potatoes needed to be grown on the hill-sides instead of in the valleys, tested out some forty to fifty kinds and found seven that were best adapted to the conditions to be met, and now potatoes are among the most successful and profitable crops.

Among the other experiments at the station is the working out of a system of maintaining soil fertility by a rotation of crops instead of sacrificing the land by a summer fallow. A short four-year rotation that is applicable to any farm is being tried, and if it can be recommended, the result will be passed on to the farmers who cannot afford to risk such tests themselves. A minor soil experiment is the ploughing under as a green manure of clover hay, part being ploughed with the top on and part with the top off.

In addition to the testing plats there are acres of oats, wheat, barley, buckwheat, potatoes and such crops, a garden where vegetables for the home table are in a prosperous condition and many beautiful flowers about the house.

A big root cellar, which is a necessary part of every Alaskan farm, is part of the equipment of the station. It is forty feet long, sixteen feet wide and seven and a half feet high. It is lined with barked poles to prevent the soil from caving when it thaws. There is a large ante-room in which there is a stove, and in the rear of the cellar are ventilators through which circulation can be established when the atmosphere is artificially warmed, as it is necessary to do when the temperature falls below sixty degrees, as it often does in this section. This cellar is always plentifully stocked with many varieties of potatoes ready to be sent out to the farmers who may need them.

As a result of the work done at the experiment stations in Alaska, a large, luscious strawberry has been developed, it has been proven that raspberries, currants, gooseberries and other berries can be cultivated, and that no apple or fruit trees so far discovered will stand the climate. A number of varieties of good potatoes have been evolved. Cabbage, cauliflower, broccoli, kale, Brussels sprouts, turnips, carrots, swiss chard, celery, lettuce, radishes, are all suitable for raising. The Alaska cauliflower is famous. It is larger, crisper and better flavored than that grown elsewhere. A wheat that will mature in one hundred days has been evolved, also a hardy alfalfa, and beardless and hullless barley, desirable because barley hay is one of the most important crops and bearded barley causes soreness in the mouths of stock and even sets up dangerous inflammation. A sturdy strain of cattle that have an all-round usefulness is also part of the good results produced.

These things are the very basis of successful farming in Alaska. But those working at Alaska's agricultural problems are not stopping here. They want the farmers to realize that farming is a three hundred and sixty-five day job, not a matter of clearing a little patch of land and planting a few potatoes. Mining, fishing and such things can occupy them part of the time, or provide channels of employment for members of the family. But to make farming pay and to get the most out of it, it must be done in a workmanlike manner, and this the force at the stations are trying to impress upon those taking up farming. They are trying to show them that there should be a variety of crops, that there should be chickens and some cattle, that every family should have a cow or two, hogs, sheep, possibly goats, and that all this is possible. Native grasses are plentiful. In many places are grass lands in valleys suitable for ranching cattle seven months in the

year. Hogs can use material otherwise wasted, and field peas, barley and potatoes make an excellent food for bacon hogs, which is the type needed, and the type experiments are being made to breed. In fact, everything that can forward agricultural development in Alaska, the experiment station service is on the alert to do, whether it is a matter of producing actual material results or of lifting the standards of farming to higher levels.

The sections most adapted to farming are the Tanana Valley, the valleys along the line of the government railroad, the Copper River Valley, the region between the Tanana River and the Fortymile River and various sections along the coast.

The region between the Tanana River and the Fortymile is estimated to contain seven hundred and fifty thousand acres and to be one of the most productive sections of Alaska. Kodiak and some of the Aleutian Islands are especially suitable for grazing, and here and at various coastal sections are to be found the abundant beach grasses. These are a coarse, vigorous grass that grows along the salt water beaches close enough to the water to be inundated only by the highest tides. It attains a height of about four feet and has a seed head which somewhat resembles wheat. This grass makes excellent silage. The settler who can include twenty or thirty acres of this grass in his homestead is in luck. The Kuskokwim country, when opened up, will make another desirable section for agriculture. This region also abounds in native grasses, which make excellent fodder in summer and silo material in winter. It is impossible to gauge accurately the amount of land suitable for farming, for some sections of the Territory have not been thoroughly surveyed. But undoubtedly there are millions of acres. It has been estimated that the agricultural and grazing area of Alaska

is equal to the combined areas of Pennsylvania, Maryland, Delaware, New Jersey, Connecticut, Massachusetts, Vermont, and New Hampshire.

The land can be taken up by settlers under the Homestead Act, full information about which can be obtained from the Department of Agriculture at Washington or the Land Office at Juneau. There are already about two thousand homesteaders in the Territory.

Almost all the agricultural land has to be cleared. This is an expensive process if labor for the work must be hired, as wages in Alaska are high. But it is not hard work. The ground is usually burnt over first. The roots of the trees are shallow, owing to the frozen subsoil, and are easily removed even when not burned. But the burning makes the work still easier. It also leaves the soil loose and fine, making it easy to work.

In so large a Territory as Alaska the soil varies greatly. In some places it requires special treatment. But these problems have been worked out by the government experiment stations and those in charge are only too glad to answer questions and give all the help they can.

To further agricultural development in Alaska an agricultural college has been established. It is located on the government experimental farm at Fairbanks. The edifice consists of two stories and a basement, the main building being so planned that additions can easily be made. There are a number of class rooms, a large auditorium, laboratories for physics, chemistry and such studies, a library, manual training and domestic science department, and all that is essential for a college of this character. The Federal government appropriates \$50,000 a year for equipment and the Territorial Legislature has appropriated \$60,000 for the buildings and pays for the upkeep.

CHAPTER XXIV

TRANSPORTATION PROBLEMS

TRAVELLING FACILITIES FEW. THE ALASKA DOG AND THE AID HE
RENDERS. THE ROAD COMMISSION AND ITS WORK. THE
GOVERNMENT RAILROAD. MT. MCKINLEY NATIONAL PARK.
THE COPPER RIVER AND NORTHWESTERN RAILROAD AND THE
ROMANCE OF ITS BUILDING.

THE United States government when it first took over Alaska had scant realization of the extent or value of the territory acquired. For many years little was done for the country. A military governor was appointed, a few officials were installed here and there and then no further thought was given it. Despite Sumner's eloquent plea in the Senate, despite such information as Secretary Seward and a few others had tried to disseminate, Alaska was still considered a barren and uninhabitable region.

But gradually as prospectors penetrated the country and reports filtered back of gold and other minerals being found, and especially when the great rush of '98 took place, the needs of Alaska in certain directions began to be pressed upon the officials at Washington. Among the first of these necessities to be brought to the attention of legislators was transportation, and it still remains one of the biggest problems to be solved.

The dog was one of the earliest and still is one of the big factors in travelling in Alaska. But a country to develop to its utmost capacity must get beyond the dog stage of transportation. At the best, the amount of

freight and supplies that can be hauled by dogs for a country as vast as Alaska is negligible.

But until better means shall come, the Alaskan must rely upon his dog, and in the winter travelling by dog team is the chief means of getting about in the interior. The Alaska dog has an unique and important place in Alaskan life. In many sections he is far more prized than a horse, and his cost, when of a fine breed, has been equal to, if not in some cases higher, than that of the horse.

The two Alaskan dogs best known are the malamute, "maribou," one tourist insisted upon calling them, and the husky. There is still a third, called the Siwash or Indian dog. But the malamute and husky are the ones chiefly used in the dog teams and the ones usually meant when Alaskan dogs are spoken of.

As to the family tree of these dogs there is much difference of opinion. Some claim that both have wolfish ancestry, others that there is no wolf blood in them. Those who support the wolf theory say that when the dogs are puppies their method of drinking water is watched and those that show too great a preponderance of wolfish nature are killed for fear they will prove dangerous. But on several points in regard to the Alaskan dog there is much controversy. Some maintain that the story of their making a bed in the snow is all myth, while others, some of them dog owners, stoutly maintain they have seen dogs do it.

However, these discussions have little real value. Both malamute and husky are the Alaskan's good friends and haul him and his supplies over the snow wastes in winter and patiently become a pack animal in summer if necessary.

The malamute is primarily the Eskimo dog. He has a thick coat, usually silver gray in color, a graceful, bushy

tail, carried high, a sharp, black nose, prick ears and narrow eyes. He is keen, alert, intelligent looking, a tireless worker and willing always to do his share in a fight. His feet are tough and clean, and the feet of an Alaskan dog are an important part of their anatomy, for they must stand travel over ice and snow without getting tender or sore.

The Husky was bred by the Hudson Bay voyageurs from dogs of the Indians and a carefully selected strain of imported dogs, or else from careful selections of the Indian dogs. It is perhaps a trifle larger than the malamute, both body and legs being larger. But his coat looks much the same and he carries his tail in the same plume-like fashion. His ears are not so permanently pricked. He is more used in the interior.

The Siwash looks somewhat like a small malamute. He is a good worker, but, in the main, is uncared for and half starved.

The Siberian hound has been brought in, and of late years there has been interbreeding with collies, setters, pointers, Newfoundlands and St. Bernards.

The food of the Alaska dog is principally fish. But some dog owners add cereals to this and tallow or fat in some form. In summer the dogs are often boarded at dog ranches. These dog ranches can be seen here and there along the Yukon and Tanana Rivers. The dogs are exceedingly unhappy looking. They are kept tied, and as the temperature is apt to be high and they have a thick coat, they are most uncomfortable.

The harness is simply a band that goes around the shoulders and over the breast. The dogs are driven both tandem and in pairs. The doubling up method is considered the better, as when they are tandem ice collects on the tails from the breath of the dog behind and becomes

quite a weight. This led for a while to the bobbing of their tails. But the tail is quite a protection when sleeping at night, as the dog curls it over his nose and paws in quite a snugly fashion. The leader is important and must be the most intelligent of the team. The dogs are trained to obey spoken directions and respond to "mush," "gee," and such commands as well as a horse. "Mush," corrupted from "marche," used by the French dog drivers on the Mackenzie, has become an accepted part of the Alaskan's vocabulary. If quick travelling is desired, about fifty pounds to a dog is a load, though a dog can pull as much as one hundred pounds. From five to seven dogs is considered the best team. Those travelling seldom ride on the sled but run along with it and jump on and off the runners.

Since the introduction of the reindeer these are now used by many for travelling in place of dogs. One can ride on the reindeer sleds and the food does not have to be carried as with the dogs. But some objection is made to the reindeer because they must be herded while feeding and also because they cannot stand hard, steady travel day in and out merely on moss. An effort is being made to train reindeer to eat oats and heavier food that will give greater endurance.

But Alaska needs more than dog and reindeer travelling for the development of its countless and varied resources. The people need to get about. They need to get supplies and machinery in at the lowest possible cost. Good wagon roads and railroads are the prime essential. At present the people of the interior are served by the White Pass and Yukon route over the mountains from Skagway and down the river; up the river from St. Michael, the freight for this route coming by a long, roundabout journey from Seattle and other Pacific ports, or else over trails from



“ MUSH ON, YOU HUSKIES ”

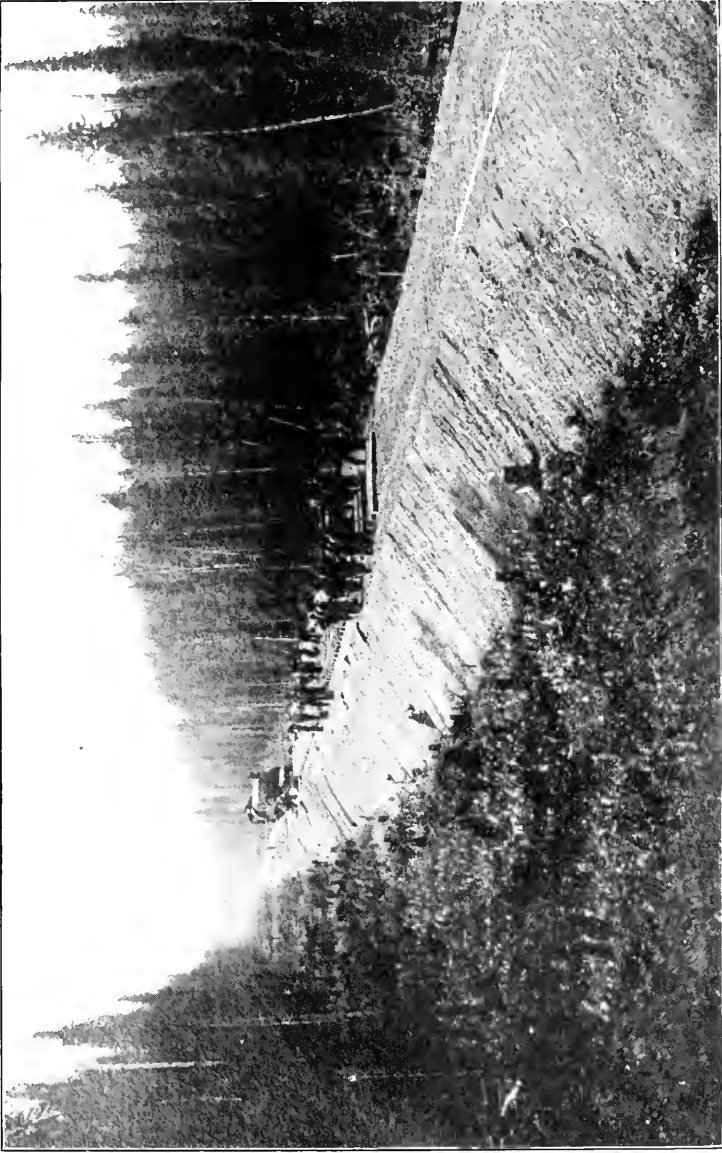
Cordova, Valdez and this section. In the winter the Yukon and all Bering Sea ports are closed with ice, which leaves only the trail from the coast. Supplies are brought in by this route by horse sleighs and when practicable by automobile and thence sent by dog sleds to camps and towns. There is a winter stage route from White Horse to Dawson whence miners mush with dogs to outlying camps. But the cost of all such freighting and travelling is extremely high and greatly retards development.

When the gold rush of '98 roused the people of the States for a brief while to an interest in Alaska, the government sent an exploring party to report on the advisability of a route from the southwest coast to the middle and upper parts of the Yukon. A route was selected from Valdez to the interior and a trail for a pack train made. In 1904 an appropriation was made for a wagon road from Valdez to Eagle but no action was taken. Later every able-bodied man in the Territory between eighteen and fifty years of age was taxed eight dollars and the money was expended on roads by a road overseer. But this plan did not prove satisfactory and it was abandoned. Finally, in 1905, a board of road commissioners composed of three army officers was appointed, the work placed in charge of the war department and systematic work of a permanent nature begun.

The task confronting the new board was not an easy one. The region in which they were to operate was equal in area to about one-fifth of the whole United States and it had problems in road construction which no other part of the country offered. In some places the ground was permanently frozen. In others there were numerous glacial streams to be reckoned with, and a glacial stream has a character all its own and a mood as changeable as an April day. Other sections were quagmires through

which either a horse or a man, even without a load, could pass only with the greatest difficulty. There were as well mountain ranges to be traversed, heavy timber and dense undergrowth to be met. These latter are of course among the usual problems of road building but in this instance they were added to the new and unusual. In fact, road building in Alaska presented a combination of all the hardest problems that can confront the road engineer. There were no easy stretches. In addition, the season was short and the field of operations far from the base of supplies. All materials needed had to be brought a journey by water of from one thousand to almost three thousand miles according to the destination, and this in addition to the distance already travelled to the embarkation point in the States, usually Seattle. In some instances all this equipment had to be transported over high mountain ranges and in the beginning over unbridged rivers. In some places two hundred pounds of horse feed a day had to be allowed for the going in and the same amount for the coming out, with a thousand pounds additional in the spring when there were no grasses for forage. Three pounds had to be carried for every pound that was used during the actual working operations.

Nature's obstacles were, however, not the only difficulties that confronted the road builders. The money appropriated for the work was a certain per cent of the Alaska Fund. But the Alaska Fund was an uncertain amount and so the commission could not plan its work on a definite basis of so much money at a certain time. Such uncertainty, especially in regard to work in Alaska where preparations must be made long in advance of actual operations, is a great handicap. So serious was this that the Secretary of War took the matter up with Congress and the item was transferred from the Alaska Fund to



BUILDING THE GOVERNMENT RAILROAD

specific appropriation. But this is, too, in a way uncertain, as it is dependent upon the will of Congress and may be changed or even dropped at any session. In addition, the appropriation is not available until July, the beginning of the federal fiscal year, and so the work is held up until the best labor has gone elsewhere and two working months of an altogether too short season are lost. One dollar in May and June is worth two in July. Lack of knowledge of Alaskan conditions produces legislation of this sort, wastes public money, and holds up the development of the country.

Despite, however, the problems that confronted the commissioners and the uncertainty of the support that would be given them, the men took up their duties and in the face of almost overwhelming difficulties have constructed and maintained about a thousand miles of wagon roads, some six hundred miles of winter sled roads and a little more than two thousand miles of trails. In comparison with the size of the Territory this is little and shows the tremendous need that still awaits. But when one considers the difficulties faced and conquered, the scant, uncertain and ill-timed appropriations, it is much.

The building of wagon roads is the most important and most responsible work of the commission. Great judgment must be exercised in their location, for the future must be considered as well as the present. Experience and care are required to select a route that will furnish a good roadbed as free as possible from landslides, wash-outs, winter storms, long, wet side hills, and such accidents as would destroy quickly all the work done. Often these locations must be made hastily if the road is to some new camp, and the work finished as soon as possible, in order that the road may be of greatest service to the miners in getting their machinery and supplies in.

Over a great part of the Territory the ground from a depth of a foot to eighteen inches and three feet is frozen and presents many complications to the road builder. If the frozen soil is gravel, the problem is not so difficult, for the moss or turf is cleared off and the road graded in the usual way. But if the soil is clay, it must be allowed to dry out, and if it is tundra the removal of the surface covering means, in a short time, a quagmire for horses and machinery to flounder and bog in. In the tundra sections, it has been found wise to leave the moss and over it put a pole or brush corduroy road.

Even when the ground is not frozen the corduroy is sometimes necessary. In the southeastern parts of Alaska the soil in some places is a bog. In fact the forests through which the roads are built resemble very much tropical jungles. The soil is soft, spongy, a mass of vegetation and timber, and after the roadway has been cleared, brush, poles, and gravel or heavy soil has to be dumped and graded to get firm going. In other places planking has to be resorted to. The road up to Silver Bow Basin, back of Juneau, is planked on trestles in some places as there is no roadbed whatever. All sorts of conditions have to be met in road building in Alaska, some of them quite new in the records of road construction.

When the ground is frozen in mountainous regions, slides are of frequent occurrence. Slides from twenty to fifty feet wide and extending up the hillsides from one hundred to two hundred feet have come down across the road burying it in mud, timber and brush and necessitating days of clearing before the road is passable.

Glacial streams are also to be contended with in the mountains. These not only have swift, strong currents that undermine and eat away banks and bridge supports but they constantly change their channel so that a bridge

will be left high and dry and useless and a new and unfordable stream appear a quarter of a mile or a mile away over night. In addition, there may be an outburst from some unknown glacial lake that will sweep away bridges and roadbeds at a moment's notice. These glacial lakes are an altogether indeterminable quantity. They form in the glaciers, sometimes in cavities underneath the ice, and gradually gather until their strength is greater than that of their ice walls, when they break through and rush down the moraines at the glacier's foot, carrying destruction with them. There seems at present no way to foresee, forestall or bridle them.

Efforts are made to keep the glacial streams in their channels. The best method devised so far is a layer of loose brush of sufficient length to give the requisite protection placed on the threatened bank, perpendicular to the current, and weighted with stone enveloped in galvanized wire netting, the whole being anchored in place by wires extending to stable supports. For emergency work, when the water is too high to permit of placing the wire netting and rock, the brush is made into fascines enclosing sacks of earth which are then placed against the threatened bank and wired to it and to each other.

The making of sled roads and trails is not so difficult. Sled roads for winter traffic only are cleared for a width of sixteen feet with all stumps, hummocks and such obstacles removed for a width of eight feet. They are constructed where the amount of traffic is not sufficient to justify a wagon road, where the cost of building a road would be prohibitive, or where the communities along the route are amply served by water transportation during the open season. If it seems probable that future developments may demand or justify a wagon road, the location is made as for a wagon road in order that the work

done on the sled may be of use when the improvement is made. Over exposed and treeless sections these winter trails are staked for guidance in storms.

The maintenance of the roads also presents some unique features. In some districts when the snow and ice begin to break up in the spring, a steam heating plant has to be used to keep the culverts thawed out else they will be destroyed. When the thaw starts, water runs down the slopes and ditches carrying silt and débris. This freezes at night and does not thaw out as quickly in the morning as the snow and ice on the surrounding hillsides, which continue to pour down their water to the clogged culverts. It soon goes over the top, the road becomes impassable and the culvert in danger of being destroyed unless the ice is thawed and the outlet kept open. The work of transporting steam thawing plants over the roads at this season of the year gives some idea of the difficulties the road commissioner has to grapple with.

Another problem the road makers often have to face is the forming of a small glacier or ice cap over culverts. In some places the water will run in a small stream all winter, freezing from the bed of the stream upward until ice from ten to twelve feet thick is formed over the bridge. In the spring the ice melts on the top and also on the surrounding hills. Most of this water runs under the ice block until it is suspended on the culvert, when if the weight is too heavy, the culvert will fall. These formations have to be watched and the ice chopped. When it is remembered that on the Fairbanks road, where this occurrence is most usual, there are five thousand culverts, the magnitude of this task can be glimpsed.

As can be seen, road building in Alaska is costly, and to secure the best results needs adequate, specific and timely appropriations.

The most necessary transportation for the Territory, however, is railroads with wagon roads and trails as feeders. And the most hopeful sign of better times coming is the building of the government railroad. At present the biggest thing in Alaska is not Mt. McKinley, the gold mines, copper deposits, fisheries, or other resources, rich as these are, but the government railroad. And by this is not meant the miles of trackage or the cars and engines, for compared with other railroads these are small, but what the government railroad stands for. In Alaska's welfare and future it looms tremendously big. It means development, it means supplies, it means other railroads reaching out to remote parts of the Territory. It means, in a word, the opening up of this large and rich country to its fullest capacity.

Not that the government railroad will do all this, for it is but a stretch of some five hundred miles. But the development that will begin along its route will gradually spread like ripples in water till the effect reaches the farthest boundaries. Other railroads will come, other cities will be built, mines will be opened in far distant places where it is impossible now to work them profitably, other industries will spring up in consequence, and Alaska will come into the full, rich life that is rightfully hers. That is the reason the eyes of all Alaska have been turned so eagerly toward this railroad and why the people of the Territory have waited so impatiently its completion.

Congress passed the bill for the construction of railroads in Alaska in March, 1914, and a commission was created by presidential appointment consisting of William C. Edes, Frederick Mears and Thomas Riggs, Jr. to take the work in hand. An Alaska newspaper writer very accurately depicted the task that confronted these men when he wrote at the time of their appointment:

"Imagine a country possessing more than twenty-six thousand miles of seacoast frontage and an area approximately one-sixth of the size of the United States.

"Imagine it in point of population and exploitation of resources in but little better condition than the American colonies were in about 1650.

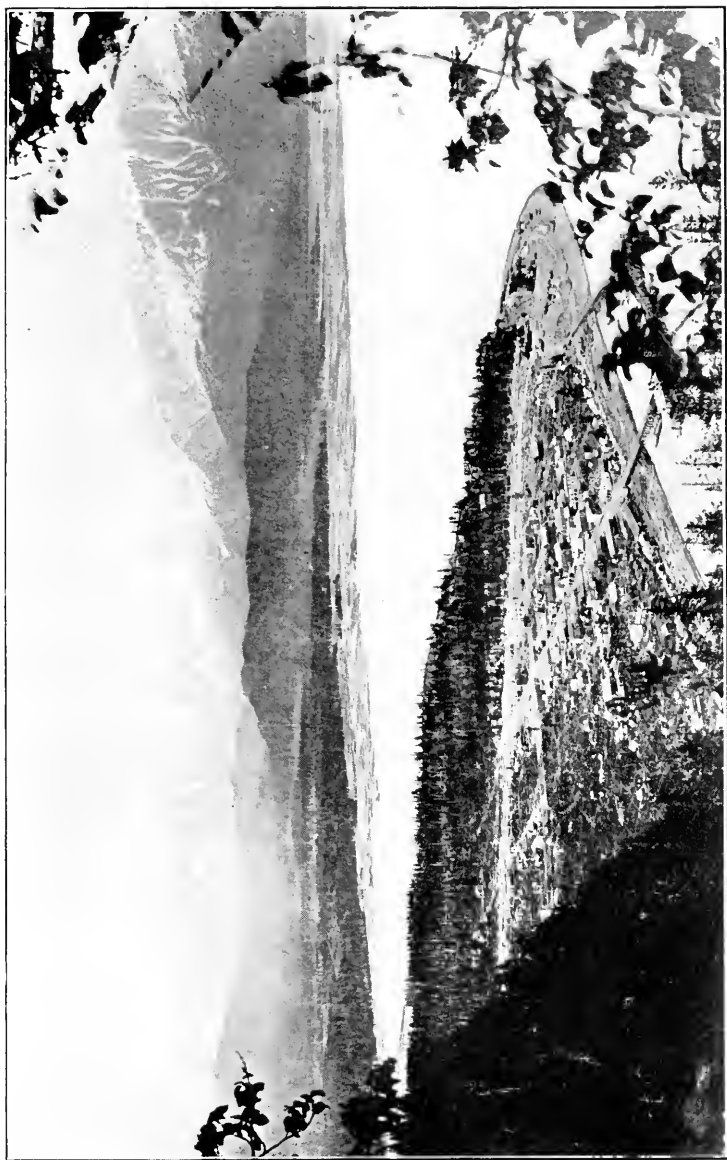
"Imagine a situation in which you, as an engineer, were called upon to go into that portion of the country which would approximate in size that portion of the United States extending on the seacoast from Portland, Maine, to Raleigh, North Carolina, and extending back into the interior to cover Detroit, Cleveland, Louisville, Pittsburgh, and West Virginia, for the purpose of planning the future commercial, agricultural, and industrial development, particularly of the region named and potentially of a much greater region.

"Imagine all this and you will have some idea of the task Uncle Sam has given the Alaska Engineering Commission."

The commission immediately went to work studying the question of routes, and in order to do it in the most thorough manner, eleven parties were sent out to cover what was thought to be the most desirable territory.

Surveying in Alaska is not what it is in many parts of the country. The season is short. All supplies must be taken in on pack horses as the boggy condition of the country in many places precludes the use of wagons to any extent until roads and trails are made. Horses mire in these bogs and often progress is extremely slow.

After an exhaustive study of all possible routes to the interior, the one from Seward to Anchorage, thence along the valley of the Susitna River, through Broad Pass and down the valley of the Nenana River to Nenana and Fairbanks was decided upon. It not only presented the least



A BIRD'S-EYE VIEW OF SEWARD

difficulties of construction but it tapped coal lands and agricultural lands and would assist at minimum cost the very development that Alaska needed.

From Seward northward for a short distance a railroad had been partially constructed. It was begun in 1903 under the name of the Alaska Central Railroad but meeting with financial difficulties finally went into a receiver's hands. In 1910 it was resuscitated under the name of the Alaska Northern Railroad Company and its construction again went forward. The work, however, languished and cars were only run intermittently, sometimes only a gasoline car carrying a score or more passengers and light express matter being used. This road was purchased by the government, thus giving a terminal at Seward on the coast and a route through the Kenai Peninsula with its rich placer and quartz prospects.

Seward, the coast port of the government railroad, is picturesquely situated on one of the most beautiful harbors in the world with great snow mountains towering wherever the eye looks. The town is a substantial and well-built little city, busy and optimistic. It has its enterprising daily paper, its grammar and high schools, telephone exchange, well stocked stores, comfortable hotels, electric light plant, cable and wireless stations. The water supply comes from a pure mountain stream one thousand feet above the town. The name was given in honor of William H. Seward, who negotiated the purchase of Alaska. It seems fitting that his name should thus be linked with the greatest possible agent in the development of the Territory.

The harbor is entirely landlocked and is guarded at its mouth by massive mountains of rock that permit a narrow passage into the bay. Mountain ridges rise abruptly from the water, and their snow-crowned summits are re-

flected in its clear surface. It was this harbor that Baranof chose for shipbuilding and here the first ship launched on the Pacific was constructed.

The Kenai Peninsula, through which the government railroad runs northward, is about one hundred and sixty miles long and one hundred miles wide and is suggestive of Switzerland in the beauty and grandeur of its scenery. The mountains rise to a height of eight thousand, nine thousand and ten thousand feet and there are many lakes and glaciers. It has, however, some good agricultural land slightly timbered, and there are tracts for homesteading ready for the mowing machine. There are thousands of acres of wild hay that grows higher than a horse's back, and cattle could profitably be raised on the valley benches.

Some parts of the Peninsula are underlaid with coal and gold is also found. A gold bearing quartz lode was discovered in 1898. In fact, the first gold mined in Alaska was taken from the Kenai Peninsula and the first coal from any Alaskan field was secured here by the Russians for the use of Russian steamers. Convict labor was used to mine it. When the development of California came, a company of San Franciscans and Russians was formed for mining the coal, machinery was shipped and run by steam power. The ruins of this work can still be seen, and balls and chains of the convicts used in working the mines are still found.

This part of Alaska offers many attractions to prospective miners and settlers. The climate is mild and the rainfall not excessive. Its southern harbors are free from ice throughout the year and at all times available for ocean traffic. Seward affords an outlet for mineral and other products whose development the railroad will facilitate. The auriferous gravels are widely distributed,

though at present mined only in a small way because they carry values too low to be worked by simple methods. Large deposits of lignite coal are accessible and hydro-electric development quite possible.

From Seward the government railroad runs through pleasant valleys, some grassy and prairielike, others timbered, with mountain peaks piercing the sky line. Then gradually it begins to climb and ahead lie the waters of beautiful Kenai Lake with green, wooded shores and snow peaks nine thousand and ten thousand feet high all about. Wherever the eye wanders are glorious visions of water and wood and shining glacier and craggy peak. The road runs along the shore for a stretch and then swiftly climbs the mountain side through gorge and ravine, crossing several daring trestles, and then sweeps down again into the valley of the Placer River. Here a glimpse of Spencer Glacier is caught with its five-mile front sparkling blue-white in the sun. Snow mountains tower all around. Glaciers, some of them larger than any in Switzerland, waterfalls, gorges deep and rocky, bridges and tunnels, make the route one of surpassing interest and beauty.

As Turnagain Arm is reached, one may see, if the tide is coming in, the great waves, or "bores" as they are called, that rush in here from ten to forty feet high at times and which were the terror of early prospectors. The tidal waves in Turnagain Arm are next to those of the Bay of Fundy for height and force. When the tide is out, the bottom of soft blue mud is bare.

The road follows the curves of Turnagain Arm with the water on one side and the canyonlike formation of the mountains on the other. The mountain sides are timbered to the snow line with spruce and hemlock and above this green mantle tower the snow-clad peaks.

The name Turnagain Arm was given by Captain Cook when he was exploring these waters for the northeast passage. When he first turned the prow of his boat into the body of water that now bears his name, he thought he had found the long sought waterway to Hudson Bay and the Atlantic. Turnagain Arm was a great disappointment.

Anchorage, which is soon reached, is the headquarters of the Alaska Engineering Commission. It is located at the mouth of Ship Creek on a level stretch and is a thriving town of pretty homes, hotels, banks, stores of many kinds and government shops. It has a water system, sewer system, graded streets (many with concrete sidewalks), an electric lighting system, telephones, a well equipped sanitation department, a garbage disposal system and a fire department. Its principal business thoroughfare is a mile long and has twelve-foot concrete sidewalks on both sides through the greater portion of the town.

The public school is one of the finest in Alaska. The building is three stories in height and has all modern improvements, including steam heat, electric light, water and sewer systems, together with school equipment of the latest sort. The primary and grammar departments are carefully graded and the high school course embraces the subjects taught in the accredited high schools of the States. A night school is also part of the work of the school system and is provided for the purpose of offering to adults an opportunity for acquiring such knowledge as they may desire. In addition to the common branches of study, stenography, typewriting, bookkeeping, public speaking, French, Spanish, mineralogy, geology and other subjects are taught by qualified teachers at the night sessions. The school has a library containing more than a

thousand reference books. Text-books and supplies are furnished free to all students.

The town has many fraternal organizations, a Farmers' Association, a Fair Association, an energetic Woman's Club. There are theatres, a recreation park and many other facilities for enjoying the pleasures of life.

The harbor needs some dredging to permit ships to load and unload at the docks. But when this is done, it will make an excellent shipping point especially for coal, as it is free from ice eight months in the year.

From Anchorage the road skirts Knik Arm, another branch of Cook Inlet, the water on one side, the mountains on the other, giving glorious views whichever way one looks, until Matanuska Junction is reached, where a branch road runs to the Matanuska coal fields.

From Matanuska Junction the road strikes west and then north along the Susitna River, and here the most magnificent scenery of all begins, for though this route was selected for its practical features, it passes through some of the finest scenery in Alaska. On both sides of the railroad line the snow-capped peaks of the great Alaskan range tower, Mt. McKinley dominating them all. It is a vast region of great mountains, beautiful valleys, gleaming rivers, spruce forests, and lovely wild flowers, a region overpoweringly impressive in the richness of its offerings, whether these be the unrivalled scenic beauty of the great range of snow peaks with Mt. McKinley twenty thousand, three hundred feet high, Mt. Foraker, seventeen thousand feet, and others almost equalling these in altitude, the valleys opening on all sides knee deep in rich grasses and suggesting the agricultural possibilities of this region, the streams with their leaping fish or the forests with their abundant animal life.

The Mt. McKinley National Park lies in this section.

though the actual entrance to the Park is some few miles distant from the railroad. But there is a station on the railroad for the park, and the time is not far distant when each summer will see many tourists arriving at this point for a holiday outing in one of the most impressively beautiful places in the world.

The Park comprises an area of twenty-two hundred square miles. Its longest dimension follows the general course of the Alaska range from Mt. Russell, eleven thousand, five hundred feet high, northward and includes the main ranges of this mountain chain that is one of the most prominent on the continent. This chain is higher and broader than the Sierra Nevada and of greater relief and extent than the Alps. In this section that sweeps through the park are a multitude of peaks, nine thousand, ten thousand, twelve thousand, fifteen thousand feet high, and on up to the monarch of all, Mt. McKinley, twenty thousand, three hundred feet. Much of the impressiveness is due to the fact that these mountains, especially Mt. McKinley, rise from a low tundra shelf and not from a high plateau as is usually the case and which detracts from the effect of height. No other known peak rises so high as Mt. McKinley over its own base, and it is this that gives the effect of such stupendous height and grandeur.

But though Mt. McKinley gives the dominating note, the whole park is a place of wondrous beauty and interest. There are valleys rich in grass and wild flowers. Spruce, birch, and cottonwood lend their loveliness of green. Waterfalls and mountain streams give the flash and movement of water. Great glaciers sweep down the mountain sides. Muldrow Glacier, named for Robert Muldrow of the United States Geological Survey, is thirty-five miles long and as glaciers go, accessible. When it is considered that the largest glacier of the Swiss Alps is only sixteen



MT. MCKINLEY

miles long, some idea of the stupendous scale upon which the scenic beauty of this park is built can be gained. To add to the loveliness, great lava flows are to be found here and there, giving vivid patches of red, purple, brown and green.

In addition, the park is a great game preserve. Moose are plentiful. The white bighorn mountain sheep rove it in bands, as many as three hundred having been counted in a day. More than a thousand caribou have been seen at one time by surveying parties or prospectors. The black, brown and grizzly bear are to be found here, and smaller animals, especially foxes and beaver, are in abundance. With the exception of one region in Africa, no other region in the world it is said by those who have made a study of the subject, is the home of so much big game.

And yet all this unequalled beauty, outdoor living of the most pleasurable kind, and mountain climbing of a rare order, for nowhere else in the world are there such high climbs above snow line, is comparatively easily accessible. A comfortable water trip through wondrously beautiful scenery, a railroad journey of fairly brief duration, and even the most modestly equipped traveller finds the wonders and beauties of the park his to enjoy as long as he will.¹

The immense height of Mt. McKinley impressed the Indians. It was used as a landmark in their journeys, and stories about it were woven into their folk lore. By them it was called Denali, the Most High. It is claimed by some that this name should be retained as it is both beautiful and significant. Archdeacon Hudson Stuck, who was

¹ At this writing (1918) the railroad is not yet finished but it is hoped by those in charge that a short time will see it completed.

the first to climb the mountain, applies this name to it exclusively, and Dr. George Byron Gordon, of the University of Pennsylvania, who made an expedition to this section for purposes of ethnological research, in a book which he has brought out says, "There is no obvious sense of fitness to reconcile one to the association of ex-President McKinley with a natural feature of the Alaskan landscape. I am going to persist in using the name Denali like the savages who have some priority in the matter and who have their own fancy for names. The builders of the man-made town have an unquestioned right to call it what they will, but the mountains are not man-made, and having seen this masterpiece of His handiwork, I have not the will to remove therefrom the name of the Most High."

Among the early explorers little was known of the mountain. Vancouver speaks of "distant stupendous snow mountains covered with snow and apparently detached from each other." Vague as this is it is the first mention made even of the range in the reports of the early explorers. The Russians evidently knew of it for they spoke of a "Bulshaia Gora," or Big Mountain, but no definite reference to it as a great peak is in their records. William Dall, of the Western Union Telegraph staff, made mention of the mountain chain and gave it the name Alaskan Range.

Arthur Harper and Alfred Mayo, the traders of the Yukon, went three hundred miles up the Tanana River on one of their exploring expeditions, the first white men to ascend this river, and reported finding gold on the river bars and also the sight of an enormous snow mountain.

Frank Densmore saw it and was so enthusiastic in his description that the mountain was known for many years as Densmore's Mountain. Other prospectors also told of

a great peak looming cloudlike in the sky. But it was not until 1896, when W. A. Dickey, a graduate of an eastern college, went through here, saw the mountain and stated its height to be about twenty thousand feet, that it received the name of Mt. McKinley. He wrote an article to the *New York Sun* about it, but the world at large paid little attention to his report for it was classed as only another of the wild tales which emanated from Alaska. But another discovery about the same time as the publication of his article, that of the Klondike gold, altered the status of Alaska in the public mind. The government began to realize its long neglect of this vast possession. Money was appropriated for its development. The United States Geological Survey began a series of explorations and surveys that brought definite, accurate knowledge of the Territory.

Of the government surveying parties sent to Alaska in 1898, one made the first determination of the height and position of Mount McKinley. By a rough triangulation, Dickey's remarkably accurate estimate of the height of Mt. McKinley was verified. It was only after the publication of the results of this survey that Dickey received any adequate recognition from the public for his important contribution to geographic knowledge.

With the mountain definitely located and its height ascertained, came the ambition to climb it. Judge Wickersham of Fairbanks, and at that time Judge of the District of Alaska, made the first attempt. In 1903, with four others, he left Fairbanks and undertook the climb from the impossible north side. The party reached an altitude of about ten thousand feet but were compelled to return.

About the same time Dr. Frederick A. Cook made the attempt but came to the same barrier that stopped Judge

Wickersham. Three years later, accompanied by Professor Herschel Parker and Mr. Belmore Browne, he made another attempt, but did not get across the Range. With one companion Cook came back by another route late in August and claims that he climbed it. This controversy is too well known to comment upon.

In 1910, Thomas Lloyd, Charles McGonogill, William Taylor, Peter Anderson and Bob Horne, prospectors and miners, and E. C. Davidson, a surveyor, set out from Fairbanks to make the ascent. Davidson and Horne eventually left the party but the others continued. This expedition was the first to discover the only route so far found by which the mountain can be climbed. Lloyd, while hunting mountain sheep in previous seasons, had discovered the key to the labyrinth in Muldrow Glacier. Two of the party reached the top of the north peak and planted a flagstaff there. With nothing but climbing irons strapped to their moccasins and poles in their hands and without ropes they made the last stretch of the ascent.

Later in the summer of 1910, Professor Parker and Mr. Belmore Browne, members of the second Cook party, made another attempt but tried from the inaccessible side and the effort failed. In 1912 they organized another expedition. This time they had the information about the Muldrow Glacier route. Delays and then blizzards and the exhaustion of their food supplies compelled them to give up the attempt after they had reached a height of some seventeen thousand feet for their final camp and from this had come within a few hundred feet of the top. From their high base camp of seventeen thousand feet several attempts were made for the top but blizzards and storms prevented their reaching it and finally they had to break camp and leave without accomplishing their purpose.

The mountain was at last climbed by Hudson Stuck, archdeacon of the Yukon, and three companions, Mr. Harry P. Karstens, Mr. Robert G. Tatum, and a half-breed boy, Mr. Walter Harper. Harper was the first to reach the summit and thus a native Alaskan was "the first human being to set foot on the top of Alaska's great mountain," says Dr. Stuck in his most interesting account of the conquest of the peak. The ascent was accomplished June 7, 1913. Archdeacon Stuck gives a most delightful description of the climb in a book published the following year.

Beyond the Mt. McKinley Park station, the railroad continues to Broad Pass. This is a wide, valleylike opening between the mountains, evidently the path of an old glacier. Here the range is crossed and the route winds down across rivers and through country dotted with lakes to the Nenana River section. In some places the road has been cut in the solid rock and canyons and narrow gorges lend a wildness and picturesqueness that enchants and thrills.

Soon the Nenana coal fields are reached, a section not so interesting perhaps to the tourist but of supreme importance to Alaskans for it is this coal that will be of invaluable help in developing interior Alaska. At Nenana the Tanana River is crossed and thence the line runs over the route of the Tanana Valley Railroad through gentle hills and poplar and willow thickets to Fairbanks.

As Alaska becomes better known undoubtedly one of the great tourist trips of this country will be over this railroad from Seward to Fairbanks and then out by the auto road to the coast or vice versa. It is doubtful if such a trip can be equalled elsewhere in the world for magnificent scenery and varied interests.

There are but few other railroads in the Territory. Of

these the Copper River and Northwestern may be said to be the most important, because the White Pass road, though a means of transportation for freight and passengers to Alaska, is not in American territory except for a short distance.

The Copper River and Northwestern Railroad extends from Cordova to Kennicott, a distance of about one hundred and ninety-six miles. It was built entirely in the interests of the copper mining industry of the Copper River Valley and though it traverses a magnificent section of the country scenically and is used by tourists, its main business is the transporting of copper ore from the mines to tidewater at Cordova. It was completed in 1911 at a cost of \$20,000,000. When the project of building the road was first broached many engineers said it could not be done. But they did not reckon with the Alaskan spirit. The road was needed. That was enough. Mr. E. C. Hawkins, the engineer of the White Pass road, was placed in charge, with Mr. J. L. McPherson, now secretary and manager of the Alaska Bureau of the Seattle Chamber of Commerce, as one of his able assistants and the work was begun.

Without doubt the task that confronted these men was one of the most difficult engineering problems in America. The route lay through one of the most rugged mountain regions of the continent, with glaciers, glacial streams, deep canyons, one of them being three hundred feet high, and swift rapids, to be conquered. In the bridge building alone were problems such as had never before been presented. The delta of the Copper River offered difficulties at the very outset, for there is almost no ground here for construction camps and only green alders and willows for fuel. But the men were not deterred. Camps were made somehow, surveying went forward even at a temperature

of fifty below, supplies were pushed up the river even though it took six months to get material from Cordova only to the glacial region.

While the famous bridge across the river between the Miles and Childs Glaciers that alone cost a million and a half dollars was being built, the work on the road beyond was going forward. For this construction, men, machinery and supplies had to be ferried across the river. Although the boat for this work had been especially built and was reinforced with steel, so terrific were the ice-laden waves caused by the fall of bergs in the river from the glaciers that often it would have to tie up to the bank and make repairs before it could continue its task of taking rails, spikes, ties, engines and such things that the railroad builders needed.

At one time a glacial lake in Miles Glacier broke and the water and ice flooded twenty miles of track that had been completed, tearing out the trestles, washing out the embankment and generally destroying the work that had been at such effort finished. A mountain slide in Abercrombie Canyon buried the track at another time and cut off all communication with the workers beyond.

The construction material had to be taken forward in all sorts of fashions. In some places it had to be towed up the river, which has a deep, swift, ice-cold current, by the men who had to push their way through tangled cottonwood thickets, and these thickets need to be seen to realize their density, while others of the crew had to wade in the water to keep the boat off the rocks. At other places, especially in the winter, it was sledged forward. But this was not so easy as it sounds, for the ice on the river was piled in barriers and at other places filled with dangerous pot holes. This work of getting in the machinery and supplies was so especially difficult because

there was little good roadway. The river ran most of the proposed route between sheer rock walls and glaciers. The current in many places is swift and dangerous and boils over great rocks, making rapids far more perilous than the White Horse Rapids. Much of the roadbed has been blasted from the rocky cliffs, but before this blasting was done there was no roadway for getting in supplies. Some of this rock work cost \$200,000 a mile. At one place one thousand kegs of black powder and thirty-five cases of Number One dynamite were used to move twelve thousand cubic yards of rock.

But the building of the eleven hundred and fifty foot bridge across the river between Miles and Childs Glaciers was the greatest feat of the whole engineering problem. Millions had to be risked on the chance that the bridge would hold, for if this bridge could not be accomplished the rest of the road was valueless.

Within one hour of the time the last piece of bridge steel was delivered on the bank, the first girder was in place. In ten and a half days the first span, four hundred feet long, was completed; in six days the second span, three hundred feet long, was finished, and in ten days the third, four hundred and fifty feet long.

The temporary foundation of this third span was thousands of piles driven deep into the bottom of Copper River. The ice was a solid sheet seven feet thick. In this the piles were solidly frozen. Before the work was completed, the spring thaw set in and the ice cap lifted twenty feet and began to move. Something had to be done, and that quickly, or the whole structure would be wrecked. The men within reach were called to the scene, the steam from every stationary engine driven into small feed pipes and every man set to the task of steam melting or chopping the ice clear of the pilings. Day and night the holes were kept

open but despite all efforts the span began to move. Anchorages were then made, block and tackle rigged, and while the melting and chopping went on, the four hundred and fifty foot span which was gradually being carried away was dragged back inch by inch, bolted and riveted and the bridge saved.

To protect the bridge from the ice a row of eighty-pound rails one foot apart are placed around each pier and a kind of false piers or current breakers are also built near.

Commercially, the road is valuable, for it makes available some of the world's richest deposits of copper. But it is also valuable as a wonderful feat of engineering that demonstrates the ability of man to conquer the seemingly unconquerable.

The other railroads in Alaska are negligible. In the earlier days some railroads were built in the Seward Peninsula from Nome to Sheldon, a distance of about eighty miles, and from Council City to near-by creeks. But these roads have been abandoned. The Alaska Anthracite Railroad has been completed from tidewater on Bering River, which flows into Controller Bay, to the Bering coal fields, a distance of twenty-two miles. It is planned shortly to extend this road to deep water on Okalee Channel, an additional distance of eight miles.

CHAPTER XXV

THE NATIVES AND THEIR EDUCATION

THE INDIAN TRIBES OF ALASKA. THE EARLY RUSSIAN MISSIONARIES. MISSION WORK AFTER THE PURCHASE. THE MISSIONS OF TO-DAY. THE WORK OF THE BUREAU OF EDUCATION. NATIVE SCHOOLS. COÖPERATIVE STORES. THE REINDEER INDUSTRY. REINDEER FAIRS. PLANS FOR THE FUTURE.

ONE of the most important problems that confronted the United States government when it took over Alaska was the care of the native population, though in the beginning there was little recognition of this responsibility. The first result of the change of ownership was for the native undoubtedly harmful. Intoxicating liquors were taken among them without restriction. William Dall shortly after the purchase relates, "I saw a small schooner lying in the bay. I made out one white man on it and the round sides of two barrels rose conspicuously above the gunwales. I felt sick as I sat down, knowing that the cargo must consist of rum and seeing already the beginning of evils whose future growth none could estimate." The morality of many of the first settlers and traders was not of a high order and by association, habits and vices were fixed upon the Indians that resulted in their gradual deterioration.

The natives of Alaska belong to several distinct tribes. Along the Arctic Ocean, Bering Sea, and the western coast are the Eskimos or Innuits. The Eskimos speak of themselves as Innuits. The word Eskimo means fish eater and is a term applied by the Indians of the interior

to those of the coast and is disliked by the Innuits. Some claim that the Aleutians are an offshoot of the Eskimo. Others maintain that they are a distinct tribe. In the interior are the Athabascans. To these is applied the general name Indian. They are supposed to belong to the tribes of the north central part of the continent and to have migrated westward from the Mackenzie and Athabaskan regions. Along the southeastern shore are the coast Indians, of which there are three principal tribes, the Hydahs or Haidas, the Thlinkets, and the Tsimp-sians.

Ethnologically there are many more divisions and subdivisions and ethnologists are scarcely agreed among themselves as to the origin of the tribes to be found in Alaska. But popularly these four distinctions have been made because the natives easily fall into these groups by reason of geographical distribution and distinctive characteristics.

It is not difficult for almost any one to distinguish between an Eskimo and an Indian of the interior, or between an Aleut and a native of the southeastern part. There is a difference in stature, a difference in facial characteristics, a difference in mentality, due in large part to different methods of living and difference in food. The Indians of the southeastern part and of the interior pursue their occupations mostly on land and among mountains and forests, whereas the Eskimos and Aleuts live mostly on the water. The active life of the former over mountains and through forests in the pursuit of game breeds a different physique from that which comes sitting in boats fishing and living principally on fish. Some ethnologists, however, believe that the stature and appearance of the Eskimo are due to the admixture of Oriental blood. It is a question upon which there is much divi-

sion of opinion, but the fact of at least several distinct tribes in Alaska is generally accepted.

The Aleuts were the first to come under the domination of foreigners, for it was the islands to the westward that were earliest discovered and settled by the Russians. They were a gentle, kindly natured people given to dances and festivities and good to each other. It is said that the hunters always divided their spoils with the aged, infirm, and those incapacitated for hunting.

After the various brutal attacks of the Russians, the Aleuts attempted occasionally to defend themselves, but with little success, for they had nothing but their darts and arrows with which to oppose the firearms of their invaders. Soon they sank into a state of practical slavery. They were compelled to hunt the sea otter by their conquerors. They were sent on long voyages in their skin boats and many were drowned. They were ruthlessly murdered. It is said that for a hundred years the cruelties committed by the first Russians were recounted by the sad, poverty-stricken descendants of the once happy, prosperous Aleuts.

The Eskimos are the same gentle, kindly, smiling people. Being farther to the north, they escaped the onslaughts of the early Russians, though later they suffered in other ways from the traders of other nations. But as a race they are to-day in a far better condition than their brothers, the Aleuts.

Both are industrious, and skilful and artistic in the execution of their handwork. The Eskimos are always working, either carving ivory, working on skins or furs, whittling bows and arrows with which they are very skilful in killing ptarmigan. Their boats are models of lightness, grace and careful workmanship. The kind holding two or more is called by them oomiak and by the



A NATIVE ALASKAN INDIAN

Russians bidarra; the style in which the skin covering is brought up over the top so as to leave an opening for only one occupant is called kyak by the Indians, bidarka by the Russians. The similarity of the Russian names has been confusing to many.

With no weapons but spears, sometimes tipped with ivory, these natives of the northern and western part of Alaska killed whales and sea otter. They caught fish with improvised hooks of ivory. They improvised lamps by hollowing out stones. They were not without artistic ability. They arranged feathers in their wearing apparel with an eye to color and design. And to-day the carved ivories of the Eskimos are quaint, full of character and vigor, and the baskets of the natives of Attu are counted among the most beautiful of Indian basketry.

The Indians of southeastern Alaska were much fiercer and more cruel. Tales of cannibalism are told of them. Prisoners taken in their tribal wars were made slaves, and often at feasts and dances these slaves were killed as part of the ceremonies. It was no unusual thing when a house raising took place for the body of a slave that had just been killed to be laid at each corner and the posts of the building to be placed upon it.

The captain of an American vessel trading in these waters in the early days says of these natives, "A more hideous set of beings in the form of men and women I never saw. The fantastic manner in which many of the faces of the men are painted is intended probably to give them a ferocious appearance. Some groups look as if they had escaped from the dominions of Satan himself. One had a perpendicular line dividing the two sides of his face, one side of which was painted red, the other black, with the hair daubed with grease and red ochre and filled with down of birds. Another had the face

painted with horizontal lines in the middle and painted black and white. The visage of a third was painted in checkers."

But with these cruel and treacherous characteristics and love of the grotesque went a greater amount of intelligence and skill than the other natives possessed. Their boats, their beadwork, and their carving showed ability of an unusual order, and to-day the Indians of this section are among the most progressive of the natives of Alaska.

The Indians of the interior were more forceful than the Aleuts and less cruel than those of the coast. In the main, they were kindly, though at times, driven by the brutalities and aggression of the Russians as they established their trading posts farther and farther up the Yukon, they retaliated, as shown by the massacres at Nulato and Andreafski. But these occurrences were rare.

Some educational and religious work for the natives had been done prior to the purchase. Shelikof established a school in 1785 and as soon as the Russian colonies were on a stable basis missionaries were asked for and sent. One of the earliest of these was Father Juvenal, a man undoubtedly of high ideals, earnest and conscientious in his beliefs, but weak in practice. He suffered many hardships and was finally killed by the natives, but religiously he left little impression upon those among whom he worked. In his "Journal" he gives graphic pictures of his work, his experiences and his environment. Writing from Three Saints Harbor in 1796, he says, "With the help of God a school was opened at this place to-day, the first since the attempt of the late Mr. Shelikof to instruct the natives of this neighborhood." Describing a service which he held he says, "We had fine singing

and a congregation with a great outward show of devotion. I could not help but marvel at Alexander Alexandrevitch (Baranof), who stood there and listened and crossed himself, gave the responses at the proper time and joined in the singing with the same hoarse voice with which he was shouting drunken songs the night before when I saw him in the midst of a carousal." His description of a visit to the mainland shows some of the hardships endured. The cabin being taken by Baranof, he was shown to a small place in the hold between some bales of goods and some dried fish. In this dark and smelly place, with the light of a wretched lantern, he wrote his "Journal," "unable to partake of food and buried under a heap of dried fish whenever the boat rolled." His description of a visit to Baranof is a true self-revelation. "I found him seated in front of a tent while a servant prepared tea. He did not ask me to be seated or to partake of tea, though it was nearly a year since I had tasted any. After some unpleasant joke, however, Baranof offered tea. I felt I ought to refuse but my longing was too strong. I degraded myself before God and man for the sake of a drink of tea. Refreshed but ashamed, I left the wicked man to pray in my humble retreat for strength and pride in the sanctity of my calling."

Veniaminof is, however, the Russian missionary best known. He learned the Aleutian language and translated into it various books explaining the doctrines of the church. He labored faithfully among the Aleutians for many years and under his rule several schools and churches were established. Some of the governors that followed Baranof aided in the establishment and maintenance of schools. But so far as the natives were concerned there were few practical results, though Veniami-

nof claims differently. But at the time of the purchase only a small proportion of the natives could read or write, and in regard to the religious services the natives are described as "squatting and smoking during service, listening, bowing, crossing themselves and laughing so uproariously that the officiating priest was often interrupted in his solemn duty. They cared not for religion, or at least not for the doctrine of the Greek Church." Veniaminof could hold their attention. "All the people listened and listened without moving until he stopped." But the other priests had no such power.

With the exception of this work of the Russians, the efforts of Father Duncan at Metlakatla, and the labors of some English missionaries of the Yukon, the natives were in their primitive condition when the United States took over Alaska. And for fifteen years and more our government gave little thought to them. Had not the missions of the country stepped in, the little enlightenment which the Russians had left behind and other missionaries had labored to instil would have been obliterated.

The Presbyterians were the first to come forward. A school and mission were opened at Wrangell in 1877 and a year later another at Sitka. Following this, the mission at Haines was established, and others followed, until now the Presbyterians have churches, Sunday Schools and missions from Point Barrow, the most northerly mission in the world, to Ketchikan. Included in their work is a modern and completely equipped hospital and the fine Sheldon Jackson School at Sitka.

The Methodists also early began plans for helping the natives. In 1879, Bishop Haven proposed the establishment of a mission in Alaska, but he passed away before the plans were carried out. In 1886, the Methodist Home Missionary Society opened a mission on Unga Island,

and the work thus started by the Methodists has been continued in the Jesse Lee Memorial Home at Unalaska, the most westerly Methodist church on the American continent. The Methodists also have missions at Nome and at Sinuk.

In the '70's the Roman Catholic church started mission work in Alaska, beginning first on the Yukon. Now they have some twenty missions in various parts of the Territory, the largest and best-known being probably the Mission of the Holy Cross on the Yukon.

Before the purchase the missionary society of the Church of England was sending workers into the territory along the Yukon River. Two of the best-known of these early workers were Archdeacon Robert McDonald and Bishop Bompas. In 1862, Archdeacon McDonald established the first church mission of which there is any record, on the Yukon. He translated the Bible, the prayer book, the hymn book and several other volumes into the Indian language and worked among the natives untiringly.

In 1865 the Rev. W. C. Bompas, later Bishop Bompas, came to the Yukon and joined in the work among the Indians.

When the United States purchased the Territory, the Protestant Episcopal church of this country took up the work on the Yukon, and its missions are scattered up and down the river and throughout the interior. Not only has it established churches and schools but it has erected and maintained several good hospitals and is doing excellent work in a broad way among the natives of the interior.

Other denominations also entered the mission field. The Moravians started missions on the lower Yukon and on the Kuskokwim. The Society of Friends went far

north on the Arctic Ocean and began work among the Eskimos. Finally, by mutual agreement among the various denominations, it was decided that each denomination should take a certain part of the Territory and confine its work to that section. Under this arrangement, the Presbyterians, being the first to come to southeastern Alaska, chose that. The Baptists took Cook Inlet and thereabouts. The Methodists held to their field on the Aleutian Islands, and the Moravians did the same with the field they had chosen on the Kuskokwim. The Friends are still working in the Arctic region and a mission of theirs is established on the Kobuk. It is in charge of an enthusiastic worker who untiringly teaches the natives "book learning," cleanliness and religion. The Society of Friends is to be commended for the principles of temperance they have instilled in the natives, for their missionaries have been especially successful in creating an aversion for intoxicants.

The Congregationalists have various missions along Bering Sea, the Swedes on Norton Sound, and the Norwegians in the Port Clarence district.

Before missionary work was thus fully organized the government awoke to the necessity of doing something for the natives and in 1884 an appropriation was made for educational purposes. The work at first was turned over to the missions, since they already had schools established. Dr. Sheldon Jackson, who was the first secretary of the Presbyterian Board of Home Missions and whose name was almost synonymous with early missionary and educational work in Alaska, was appointed first Superintendent of Education. But as this arrangement, which was really subsidizing the missions, aroused some opposition, as it was contrary to the American principle of the separation of church and state, it was finally aban-

done and a Bureau of Education for the Natives was established with Dr. Jackson first general agent.

This bureau is doing excellent work. It has schools for the natives ranging from the most southeasterly sections to Point Barrow on the Arctic Ocean, westward on the Aleutian Islands and even on the St. Lawrence and the Diomed Islands of Bering Sea.

The usual studies are taught, some schools taking their pupils as high as the eighth grade, though most of them reach only about the fifth grade. The teaching is done in very practical fashion. In arithmetic, for instance, the children are instructed to figure the cost of tea, bread, flour, sugar and the articles of daily use and to make bills for the same, thus learning arithmetic as it is connected with daily life rather than as something abstract and uninteresting. Another efficient way in which arithmetic is taught in some of the schools is by the arithmetic game. In this two captains are named by the teacher and these choose their aids. Questions are then given by members of each side to their opponents, the questions being the result of each one's own mental effort.

The language work includes the making of an Indian-English dictionary in which all become tremendously interested and thus forget their hesitancy in speaking English.

When a wireless or telegraph station is near at hand the discussion of the news is part of the morning's exercises. So eager are the natives to get in touch with the world that it is no uncommon thing to have the school-room full of adults to hear the news. This dissemination of the news arouses interest in geography and history and makes the teaching of these branches easy. In fact the wireless has done more to arouse the slumbering intelligence of the native than years of abstract book work.

It has brought education to him imperceptibly and given him an appetite for more.

The pupils are also taught manual training, domestic science and gardening. The girls cut and make dresses and often wear to school the results of their handwork. Sewing machines are now in almost every Indian village and in some villages almost every native home has its sewing machine.

Cooking is also a part of the instruction. The teacher not only gives the instruction at the school but, when possible, goes to the children's homes and teaches them there, as it has been found that instruction based on actual conditions that will confront the pupil is more helpful.

The boys are taught carpentry and make log cabins, canoes, boats and sleds. The Yukon sleds they build find a ready sale. They are also instructed in sheet iron work and make airtight stoves, cook stoves, camp stoves and stove pipe, all of which find ready buyers.

Gardening is also taught, and not only are good school gardens made but many native homes have their garden patches as the result of what is taught in the schools. The pupils take great pains in preparing the soil, diligently picking out every root and stone. Corn, tomatoes, string beans, cabbage, radishes, turnips and other vegetables are raised. Over-supplies are canned and stored for winter. Some are sold. At one Indian village seven hundred and fifty dollars were realized one season from the sale of the vegetables raised in the gardens as a result of the school work.

The native schools do much besides teaching the school curriculum. The teachers are missionaries in spirit and do whatever they can to improve the welfare of the people generally.

The matter of sanitation is one in which they work as earnestly as at teaching. At one village when the teacher first went there several years ago there were but four cabins above ground, two half under ground and four huts altogether under ground, beaver style, ten habitations for about one hundred and fifteen people. To-day the village is spread over a space of not less than five acres upon which are erected three rows of dwellings, twenty-four in number. Each, as a rule, is occupied by one family; they are well lighted and have means of ventilation without opening the door. In 1911 there were no ranges in this village and only one sewing machine. Now there are five ranges, nineteen stoves, eighteen sewing machines and six phonographs. Tables, chairs, rocking-chairs, bedsteads and bed springs are to be found in these homes. Premises are clean and the rubbish is burned.

Before a school was established on St. Lawrence Island, which is ice-bound and inaccessible eight months in the year, the natives were uncouth barbarians, living in filthy houses, afflicted with all manner of diseases, addicted to the use of intoxicating liquors. They were at the mercy of the traders and whalers as to the prices received for their commodities. For food they were entirely dependent upon their uncertain catch of seal and walrus. All this is now happily changed.

Throughout Alaska the natives are taught to take baths and to wash their clothes. In some parts of the Territory these are no easy tasks, for the only water to be had must be secured by melting snow. In order to bathe Saturday the snow melting must commence Monday and go forward all the week. Very possibly the only wood to be secured is driftwood that washes up on the beach. This cannot be collected in winter and the supply has to be frugally managed.

Steam home canning outfits have been introduced into many villages where under the supervision of the teachers the surplus vegetables, wild berries and fish are put up for winter use.

One of the most important things that the Bureau of Education has done for the natives is the institution of the coöperative store. These are now established in a number of Indian villages and others are constantly being formed. They are really a native stock company under government supervision. The natives take shares at a certain amount each, usually ten dollars, the teacher taking one share. A Board of Directors is elected, the teacher being one of the board. A local storekeeper is selected who must, of course, be a native and he, with the assistance of the teacher, manages the business.

The best organized stores have a cash register, which is a great asset to the Indians, as they seem to have far more faith in their storekeeper when assisted by a cash register than when not. At the end of the year an auditor goes over the accounts and sees that all is correct. The whole process of the business is fully explained to the Indians, so that they thoroughly understand all that is being done.

Three kinds of dividends are paid, a cash dividend on the stock, a stock dividend on the stock, and a dividend on cash purchases made by the purchaser at the store. This last is done to encourage them to trade at the store. Prices are those of the public markets as a rule, as the stores are not intended to disturb trade. The stores are simply for the purpose of securing articles of clothing and food at equitable prices, the dividing among the natives themselves of profits that would otherwise go to a white trader, and the acquiring by the natives of self-confidence and business experience.

The income of one village has increased one hundred and fifty per cent because of the coöperative store there. One of these stores in southeastern Alaska paid a dividend of nearly twenty per cent. In another settlement three annual dividends have been declared and more than twelve hundred dollars has been returned to the natives who use the store. Another of the stores made a clear profit of one hundred and twenty-five per cent the first year. It is hoped by those in charge that in the course of time all the Indian villages will have their coöperative stores. Supplies then could be bought in such large quantities that a still greater saving could be effected.

Another work the Bureau has undertaken for the natives is the marketing of their furs and ivories and other articles of trade. These are shipped by mail or express to the headquarters of the Bureau in Seattle, when at stated times they are auctioned off to the highest bidder. Since the work was undertaken these sales have totalled some twenty-five thousand dollars. Articles that heretofore brought the Indians from seventy-five cents to one dollar in trade with unscrupulous traders have realized by this plan as high as forty and forty-five dollars. If the natives wish, supplies they need are bought with the money at wholesale prices if possible and sent back to them by the vessel making delivery of supplies to the settlements on the Arctic coast. When checks are sent, as it takes practically nine months for a check to reach its destination in the Arctic and return, the money is placed in a savings bank at interest.

But by far one of the biggest and most helpful things the Bureau has done for the native is the introduction of reindeer. It is believed this will become one of the important industries of Alaska and of great value to the country at large.

The first reindeer were brought to Alaska in 1892 for the purpose, it was stated, of affording relief to the destitute natives. It was claimed that the whalers in Bering Sea and the Arctic Ocean had destroyed much of the food supply of the Eskimos not only in the waters from which the Eskimos had drawn abundantly of seal and walrus and other food, but by the use of firearms had driven the caribou back into the interior. The Eskimos, it was claimed, were starving, and as a remedy it was suggested that reindeer be brought from Siberia. The matter was called to the attention of Congress and Dr. Sheldon Jackson, who was in Washington at the time, was instrumental in getting an appropriation from Congress for the purpose. In the first ten years about twelve hundred and eighty deer were imported. The herd now numbers one hundred and eighteen thousand, and the total income to the natives exclusive of the meat and hides used by them was \$97,515.00.

With the first herd, Siberian caretakers were brought to look after the animals and to instruct the Eskimos in their management. But these not proving satisfactory, Laplanders were engaged with later herds that came. The arrangement with the Laplanders included an agreement to loan them a certain number of deer for five years if they stayed in the government employ for a certain length of time. But the gold excitement broke out in Alaska shortly after they arrived and all but eight deserted. These eight, however, remained and claimed their deer, and this is how there is at present a certain number of reindeer in Alaska belonging to Laplanders. One of the Lapps who deserted bought some deer afterward from his fellow countrymen, formed a company and went into the business of raising reindeer for the market, which accounts for this branch of the industry.

The only others who have reindeer in addition to the natives are some of the missions. These acquired them through Dr. Jackson who, when the deer were first introduced, thought the missions could be helpful in distributing the deer among the natives and proposed that the government give or loan deer to the missions for this purpose. This was done. Some were given outright, some loaned, and in this way the missions secured herds which some still have.

With these few exceptions the Eskimos own the reindeer, and one of the most hotly argued questions of Alaska is whether they shall be allowed to control the industry or whether it shall be opened to the public. Those in charge of the work do not object to outsiders owning reindeer. All that the officials of the Bureau want is proper protection, for the natives, of their herds and of the grazing grounds; otherwise, it is claimed, unscrupulous traders would soon get the natives in debt to them and take their herds. The reindeer industry is bringing to the natives a permanent and settled business, changing their uncertain means of living, such as fishing and hunting, into something that can be depended upon, transforming their nomadic life into permanent homes, and giving them a goodly measure of self-respect as men of business. If the reindeer industry is snatched away from them all this will be lost.

A most efficient method of managing the reindeer has been introduced, known as the apprentice system. By agreement the natives who own herds take on an apprentice for four years. The first two or three years the apprentices are supported entirely, the remainder of the time, partially. During the apprenticeship the young native is awarded altogether thirty-four adult deer, six at the end of his first year, eight at the end of the second,

and ten each the third and fourth year. By the time he has finished his four years in this practical reindeer college, he receives instead of a sheepskin, thirty-four adult deer, which, with their young, means a herd of about fifty, which gives him a good start in life. These reindeer owners pledge themselves to keep up the distribution by taking on apprentices. When one of them has from one hundred to one hundred and fifty deer he must take his first student; from one hundred and fifty to two hundred and fifty calls for two apprentices; two hundred and fifty to three hundred and fifty, three apprentices. It is an endless chain system that gives the Eskimo a business and keeps the herds in native hands, for by government regulations no native may sell a female deer to whites. These can be sold only among the natives, and then only with the approval of teacher and superintendent.

Within the last few years reindeer fairs have been held that have done much to increase the interest in the work, improve it, and bring the reindeer owners together in a unity of interest that will help weld the entire Eskimo population together. The men come to these fairs from long distances, travelling with the reindeer with outfits especially prepared for the occasion and bedecked with colors. Often the temperature is from thirty to fifty degrees below zero, but their ardor is not chilled.

Discussions take place as to the best way to judge marketable deer, as to the best methods of slaughtering and dressing, the best kinds of sleds, and all other matters pertaining to the work. There are contests in lassoing deer, in driving wild deer, in pulling loads of various weights, in sled lashing, racing and such things. Fine exhibits are also made of harness, sleds and fur clothing.

Some of these events are exceedingly interesting and

novel. For the lassoing contest the herd of eight hundred deer is driven to a flat and penned in by a sort of human corral. When the signal is given the lassoers run into the centre of the herd and the fun begins. It is a pretty sight to see the gayly dressed natives moving back and forth to keep the deer penned in, the well-trained collie dogs on the outskirts ready to pick up any stray deer that may break through the crowd, the stately old females standing on the outskirts of the herd among the people, a few trained sled deer mingling freely with the people, the camp of eighteen or twenty tents among the willows, and the Sawtooth Mountains in the distance. The bulls after being lassoed once become very tricky and will dodge backward and forward and try in every possible way to avoid the lasso.

The contest for driving wild deer is also exciting. At a given signal the contestants enter the herd, rope, throw, harness, hitch and drive a hornless wild bull a half mile and return, and then unhitch, unharness and remove the halter all unassisted. Immediately upon being lassoed, the bull will fight to get away and it will then become necessary to throw him. The manœuvring to harness him is as exciting. As soon as the harness is fastened on, the bull starts to run wild and throws the men in all directions. One man who had lassoed the largest and wildest bull in the herd was unable to drive him at all and finally tied him on the sled and pulled him. On the return trip the deer run at a breakneck speed for the herd and some speedy and wild rides are experienced.

The sled lashing contest is one of the most difficult. It is impossible to remove the mittens, for the fingers freeze in a few seconds, and if they come in contact with any metal adhere immediately. Each sled is loaded with stove, grub box, clothing sack and sleeping bag. These

have to be strapped and covered so snow cannot enter. Outside of the canvas cover, under the lashing where they can be reached easily, are snowshoes and rifle.

All the other contests are equally interesting and each is instructive; in the races for instance it has been found that the deer can be driven to better advantage double than single, as has been the method.

There are many exhibits. In the one of fur clothing there are a number of complete outfits, each consisting of parka, pants, mukluks, mittens and sleeping bag, all made of deerskin and deerskin trimmings. The judges, who are Eskimo women, award the prizes according to the length of the stitches, the tying of the thread, the tanning of the skins, the length and firmness of the hair.

There are many discussions, and the sound business sense and high ethical principles advanced by the Eskimos in regard to business dealings with others would astound those not in touch with the advance of this race.

Although more than a hundred people attend these fairs and have to be fed and cared for, the Eskimos do all this work themselves.

As can be seen, these fairs are a great help in improving the reindeer business and in creating coöperation, good will and self-respect among the herders. Each native who owns reindeer now holds his head a little higher because the man who has no deer at all is "all the same as nothing at the fair." The technique of the industry has been given an impetus by awakening interest in all connected with it. As a result of these fairs a reindeer institute has been established where the men meet and discuss matters of importance to the work. Thus through the reindeer the progress of the Eskimo is assured. With the meat for food, the skin for clothing, harness and leather, the sinew for thread, the horns for

knife handles, and the hair for mattresses, the reindeer meets almost all the needs of the people. It would be most unwise to let this industry be taken from them.

Not only in such large and important matters as the reindeer business and coöperative stores does the Bureau look after the welfare of the natives, but no detail that will help them to self-reliance and a wide outlook on life is too small to receive attention.

In some villages the school republic idea has been started and is doing much to inculcate ideas of citizenship. A council is chosen and the making of laws for the republic is left to the members. One of the first acts passed in one village was for the care and protection of school property.

Various methods are employed to win the natives to the use of English exclusively. In one settlement the slogan was adopted, "Hydaburg an English speaking town in five years." In town meetings and gatherings the subject is always brought up and success seems assured. In some schools the children are required to keep diaries as part of their language work, the diaries being written in English. In others they are required to write in English the Indian folk stories.

Both the Boy Scouts and the Camp Fire Girls have branches among the natives and the young people are very proud of their membership cards.

The Eskimos have started the publication of a little magazine and so popular is it with the people themselves that in many Eskimo homes it is kept inside the Bible. The Eskimos themselves contribute to it, their articles having to do with the reindeer, with histories of the different tribes, with their own folklore and with such subjects as will develop a strong, united Eskimo sentiment.

Electric light has also reached the Eskimo through the work of the Bureau. This means much to the natives, not only in the matter of improving the home work, for the well lighted home is apt to be more cleanly, and sewing and such tasks can go forward better, but there is greater cheerfulness and the weird fancies and superstitions bred in the semi-darkness of the old time seal oil lamp disappear in the bright clear light of electricity.

But the Bureau is not satisfied with present achievements. With the education and development of the natives new fields ever open. A home for the old, blind, and poor natives is much needed. Such homes are provided for other peoples, yet the Indians who are quite as much in need are neglected. The Indians themselves are less able to care for their own helpless than are other people, for the native method of life is not as yet on any large scale fitted to care for the infirm.

A good Trades School to which the pupils who have graduated from the lower schools could come would be invaluable. Several hundred Alaska Indians now go to the Indian schools in the States for further education. But in a Trades School in Alaska they would be spared the expense and time of a long journey, and in addition could be taught the things that are specifically needed for Alaskan life. Many of these things are not taught in the schools in the States because they are not needed outside of Alaska. The money spent on their education outside of Alaska could be used to much better economic advantage within the country where they are to live and use their training.

Practical things would be taught. For instance, a master mechanic would have charge of the boys and for one subject of instruction would repair the engines of gas launches that could be sent to the school. The na-

tives now use several hundred power boats for fishing. In the winter these could be overhauled and repaired at the school, provide the pupils with practical experience and work that would have a zest because it would be useful and save the owners of the boats considerable expense.

Instruction in practical boat building would be another of the courses. The waterways are largely the natives' roads and their means of earning a living. Boats are their industrial plant so to speak, and anything that increases their knowledge in this field and makes them more efficient in it is helpful.

A tannery in which reindeer skins could be made into leather and manufactured into articles of commerce would be another practical course. There are many things the Indians of Alaska need to be specifically taught that can be done better in their own school than in schools outside where there is no demand for such instruction. A start toward this Trades School is now being made and it is hoped to have it established at Metlakatla.

Hospitals are greatly needed. So also are canneries in some sections and sawmills in others. Such industries are of great help in making the natives economically independent, increasing their self-respect, and in giving them settlements of permanent character.

Two acts have been passed recently by the Territorial government that have been of great advantage to the natives. One provides citizenship and the other local self-government. The act for citizenship has given the younger generation an incentive to separate themselves from Indian customs antagonistic to civilization and to reach forward to an intelligent understanding of citizenship. For many years the position of the Alaska Indian has been anomalous. Being born in Alaska he was not a

foreigner, hence could not be naturalized. Not being recognized as Indians the Federal laws governing the Indians of the States were not applicable. He has been compelled to obey the white man's laws, to pay trade and boat licenses and money into the fund for schools for white children, yet he had no way to become a citizen. As soon as Alaskans were permitted legislation of their own, steps were taken to remedy this state of affairs.

The Alaskan Indian in his primitive state showed a resourcefulness, an endurance, and an artistic sense that are to be admired. With the education he is receiving, he is proving himself intelligent, reliable and useful. He can become a happy and helpful part of our people, quite as much so as any of the foreigners that throng our gates and with far more right to help and a welcome. The art of the Indian is a most desirable addition to our art life. The Indian baskets and blankets, their beadwork and delicate featherwork, the inspiration that lies back of these and the keen eye and deft hand that guide it, are needed in the full development of beauty. With the crude materials of forest and stream they have in the past evolved most exquisite handwork. Their baskets made of native grasses and fibre are fine in workmanship and the decorations upon them colored with dyes extracted from roots and vegetables are a delight to the eye both in design and tinting. Dainty little bags and tobacco pouches of fish skin, swans' feet and fur are as charming as any white woman's fancy work, and their headdresses of beads and feathers are beautiful embodiments of patience, skill and taste. In decorative realms alone, the Indian thought is a valuable and distinctive contribution and the world is the richer for having it. It should be fostered and larger fields opened for a fuller development. It should not be allowed to pass away.

CHAPTER XXVI

LIFE IN ALASKA

THE CLIMATE. EDUCATION. NEWSPAPERS, WIRELESS, CABLES
AND THE TELEGRAPH. THE PEOPLE AND THEIR INDOMITABLE
SPIRIT.

To the question often asked, "What is life in Alaska like?" one would need to reply, "What part of Alaska?" As has been shown, Alaska covers such a vast area and presents so many different conditions of climate and environment that no one answer would accurately fit it all. For instance, Juneau and Nome in the winter are vastly different, though in the summer life in each in its main features is not unlike. Again, in some places, life in Alaska is that of the pioneer; in others, it is that of the city dweller, with all modern conveniences. In viewing life in Alaska one must have in his mind's eye the vast territory and its many varying features.

The climate perhaps claims first attention. Throughout Alaska in the summer it is warm, even in the far north Arctic region. This is due to the long hours of sunshine. At Fort Yukon, which is on the Arctic Circle, the thermometer often registers a hundred and more. William Dall, of the Western Union Telegraph Corps, when he was there in the '60's tells of a temperature that high. Along the automobile route from Fairbanks to the coast, thermometers in the sun at roadhouses have registered one hundred and six, one hundred and fifteen and one hundred and twenty-three degrees. So it is easy to be seen that Alaska in the summer is not exactly a cold

country. But the air is almost always refreshingly cool and invigorating, for it sweeps down from snow peaks and glaciers and through countless miles of spruce forests. On the coast in the summer there is often a great amount of rain. Those planning a trip to Alaska would do well to take the Inside Passage during the last two weeks of June if possible, and if this cannot be done as soon thereafter as they can. Good weather here means much to the enjoyment of the scenery, for fog or clouds cut off the view of the snow mountains, which add so much to the beauty of the landscape.

June twenty-first in Alaska is a great holiday. It does not get dark at all and there is direct sunlight from twenty to twenty-two hours. There are picnics everywhere, preferably from an elevation where the midnight sun can be seen. At Fairbanks and many other towns league games are played at midnight. Indeed this going to bed in the daytime is little to the liking of most Alaskans, so exquisitely beautiful are the long sunsets that become long sunrises without a break.

In winter the southeast parts of Alaska have about the same temperature as Washington, D. C. At some of the farthestmost southern points the temperature is not unlike that of Jacksonville, Florida. This is due to the warm waters of the Japanese current. This current, Kuro Siwo, or Black Stream, as it is called by the Japanese because of its dark color as compared with the blue, sparkling waters of the Pacific, comes up from the Indian Ocean, crowds through the passage between Asia and the Philippines, flows thence along the east coast of China and Japan, eastward along the south shore of the Aleutian Islands and thence southeast along the Alaskan coast. It is more beneficial than the Gulf Stream is to the east, for little of the cold water of the Arctic finds its way southward. The

An Alaskan Sunset



warmth and moisture of this Japanese current cause the dense vegetation of the southeast Alaskan shores.

In the interior at Fairbanks, north of the Yukon, and at Nome, the winter temperature may drop forty, fifty, and even more, below. But it is mostly a clear, dry cold; the people dress for it and no hardship is suffered. The long Arctic night, so much talked of, is really not all night, as it is supposed to be, for the sun is above the horizon for a brief time even on the shortest days and early morning and late afternoon are much like twilight. Besides, electricity is so common now in Alaska that even the myth of the Arctic night has disappeared before it. To be sure, an Arctic blizzard is not a pleasant visitation, but neither is a North Dakota or Montana blizzard.

In the larger towns of Alaska life is much the same as in any city. These towns have their telephones, their electric lights, their telegraphic news from the outside, their newspapers, theatres, churches, libraries and schools. They all have many fraternal organizations and usually a progressive woman's club.

In the unsettled regions, the country north of the Yukon for instance, the Kuskokwim, or the upper reaches of the Koyukuk, life of course is that of the pioneer. Log cabins replace the pretty bungalows of the cities, oil lamps and candles, electricity. Mail does not come very often, and in winter sometimes not at all. Life is often one of hardship and deprivation. But those living it do not so regard it. There is freedom, and always the hope of finding gold, and these two lend a zest that makes it enjoyable. The Alaskan pioneer may be hatless, shirtless, shoeless, but it is said he is never hopeless. And this attitude of mind makes him indifferent to what others would consider hardship.

The Territory has a cable and telegraph system with

several thousand miles of cable and land lines, and telegraph offices or wireless stations at the chief cities and settlements throughout the Territory. These keep the people in touch with the news of the world. The larger towns have their newspapers, and bulletins are posted in the windows of the newspaper offices the same as in the cities in the States.

Education is well looked after by both the federal and the territorial governments. There are grammar schools both in incorporated and outside of incorporated towns. In some of these, high school branches are also provided, and in some towns there are good high schools. In Juneau for instance, the high school work offers three different courses; classical, scientific, and commercial. The first two present work leading to enrollment in a college or university. The last is a general course and particularly fits the graduate for work in the business world. Additional courses in public speaking, mechanical drawing and sewing are offered, and domestic science and manual training are taught. Juneau High School graduates are admitted to the University of Washington and other coast universities without entrance examinations.

The school building at Juneau is modern in every respect even to an electric range for the domestic science classes. There is an auditorium that seats five hundred, a gymnasium with shower baths, the latest high pressure heating system, and modern ventilation that does away with the opening of the windows. The teachers are required every third year to attend a summer school.

The money for the schools is derived from both the federal and territorial governments. From the Alaska Fund, which is derived from licenses paid to the federal government, a certain per cent is returned to the Territory for the support of the schools outside incorporated

towns. These are called Nelson schools because Senator Nelson introduced the bill for their establishment at the time the schools for white children and those of mixed blood were discontinued. This money, though classed as federal support, is not really federal aid in its true sense, for the money comes directly from the Territory. It simply comes through federal channels. In 1917 the Territorial legislature appropriated more than \$400,000 for the support of the schools for two years. A Territorial Board of Education was established of which the governor is an ex-officio officer, and a Commissioner of Education appointed. The salaries paid teachers are higher, and the percentage of teachers who are college graduates or who have had previous experience, is greater than in the States.

Churches of almost all denominations are to be found in the larger towns. There are numerous stores in all the more important cities, some of them being department stores. The goods as a rule are of the best quality. Freight charges are the same whether the articles brought in are high grade or low grade and so the Alaskans insist upon the best in order to get the full worth of their money. A resident of Fairbanks tersely summed up the situation when he said, "We want things that will last when we must pay present freight charges."

And yet, the cost of living in Alaska is not so high as outsiders are led to suppose. One is told that the smallest currency is twenty-five cents. This is true in the interior, but this does not mean that twenty-five cents is the lowest price for articles. One simply needs to make his purchase amount to twenty-five cents. The things he buys may be five or ten cent articles.

Almost every home has its garden, many have hot-houses. There are market gardeners and truck farmers

near all the towns and fresh vegetables are to be had at reasonable prices. Nearly every large town now has not only one but several dairies, and fresh milk, cream and butter are abundant. Chickens are numerous and fresh eggs are no longer an unknown quantity. Fish are abundant and cheap, moose and caribou steaks are found in season on the menus of most restaurants and are delicious, nourishing and not costly dishes. It would be of little value to quote prices at present (1918) as they are not normal, but better meals could be obtained in Alaska at this time for the same money than in the States. There are comfortable hotels in all the larger towns and many restaurants, so that the traveller will not lack accommodations.

In fact, life in Alaska is much like life elsewhere, and there would be little reason to speak of it specifically except that many seem to think it is strangely and mysteriously different.

One great pest there is, and that is the mosquito. When he disappears, which he is said to do about the last of July, his place is taken by the gnat, the "no-see-em" of the Indian. It is claimed by many residents of the larger towns that the mosquito could be exterminated in the vicinity of cities by the use of oil. Perhaps when Alaska's oil fields are opened and oil less expensive than it is at present, the experiment will be tried.

As for the people of Alaska, they are "just folks" like the rest of us, except that there is a friendliness and a neighborliness that comes from living in a pioneer land, and a resourcefulness and determination that come from conquering it, that have largely died out in more thickly settled and more highly developed countries. The Alaskan of to-day is, if not the pioneer, but one generation removed from him, and the indomitable spirit of the

pioneer is still a palpable presence in the Alaskan atmosphere. In the Alaskan's vocabulary there seems to be no such word as "Impossible." If a thing needs to be done, that settles the matter. Time is not spent in considering whether it can be done. Thought is turned at once upon the "how," and though to an outsider the achievement seems an absolute impossibility, the Alaskan puts it through. Those hardy pioneers who wrestled with and conquered the White Pass, the White Horse Rapids, Thirtymile River, the Copper River canyon, the Valdez trail, the bogs of the tundra and the blizzards of the Arctic are not easily daunted, and their descendants are imbued with the same spirit. It is a delightful mental attitude to meet. It is cheery, hopeful, optimistic, and yet underneath is the iron determination that neither bends nor breaks, no matter what opposes it.

CHAPTER XXVII

BUSINESS OPPORTUNITIES THAT ALASKA OFFERS

SMELTERS NEEDED. THE OPENING OF THE OIL FIELDS WILL BRING MANY BUSINESS OPPORTUNITIES. BY-PRODUCTS OF FISHERIES AWAITING UTILIZATION. WATER POWER CAN BE DEVELOPED. A BIG FIELD FOR PAPER PULP MILLS. GREAT GRAZING AREA FOR REINDEER. MANY OPENINGS FOR SMALL INDUSTRIES THAT REQUIRE LITTLE CAPITAL.

THE question is often asked, "What are the business opportunities in Alaska?" In reply to this a man well versed in Alaskan affairs said, "Almost every business possible in the States is possible in Alaska, for Alaska has nearly all the resources to be found in the United States."

To a large extent this is true. Alaska has nearly all the minerals that are found in the United States, and some, such as tin, not found there. All the business enterprises connected with mining therefore can be carried forward in Alaska. Its fish in quantity and variety equal, if not surpass, those of the rest of the country. Its furs easily outstrip them. Agriculture, of course, will never be on so large a scale, but it will become an increasingly important and successful industry. The cultivation of certain fruits is possible, but fruit raising cannot compete with the States. Cattle raising can become quite a profitable industry and the making of butter and cheese and other dairy products has a bright future. There are vast timber areas that open up possibilities of lumbering.

But those who wish to know about business prospects in Alaska usually desire more specific knowledge. For

these there are many openings, some requiring much capital, some little.

One of the greatest needs of Alaska is smelters. All the ore mined there that needs smelting must now be shipped to the States, which is an extremely costly process. In addition, the finished product has often to be returned for Alaska's use.

The single matter of tin, for instance, is an illustration. At present practically all the tin this country uses is imported from Europe. Even when mined at the Straits, as the tin regions of the Malay Archipelago are comprehensively called, the tin is usually sent to Europe for redistribution, finally coming to this country and going on to Alaska for use in the canneries there. If the tin mined in Alaska could be smelted there, possibly also made into the tin cans needed there literally by the million, it is easy to see the saving effected for the American people on every can of salmon used or on any product for that matter put up in tin, not only in Alaska, but in any part of our country.

The coal for this smelting is right at hand. There is coal on the Seward Peninsula where tin is found and in the vicinity of the copper regions where smelters are greatly needed.

With the government railroad providing cheaper transportation and fuel, quartz mining and the working of low grade ores will leap forward in the interior of Alaska and there will be openings in many of the side industries connected with this work.

With the lifting of the ban on the oil fields a great oil industry with all its ramifications will spring into life. These resources are not accessible now, owing to government regulations, but it is only a question of time when they will be thrown open, so it behooves those interested

in the subject to keep in touch with all legislation affecting them and all news about them. So long ago as 1913, 15,682,000 gallons of crude oil, 1,735,000 gallons of naphtha, 661,000 gallons of illuminating and 150,000 gallons of lubricating oil were shipped into Alaska. With the growth of the Territory this demand steadily grows, so it can be seen what a field is here right in Alaska itself for the products of the oil industry.

The fish of Alaska open up opportunities in many directions for business enterprises. Not only can one engage in the established industries, but there are delicious fish not yet on the market, such as the candlefish and the Atka mackerel, and many industries connected with the shell fish that have barely started. In addition there is much waste associated with the fishing industries that could be utilized. Cod livers and cod tongues are utilized elsewhere, but in Alaska they are thrown away. In Norway, cod caviar is made that is a source of much profit. Glue, fertilizer and such things could be made from the waste of the canneries. At a few canneries experiments are being undertaken in manufacturing chicken food as a by-product but this work is yet in its infancy. The canneries have such a short season and are so extremely busy during their season that they have little time for side issues. But there are openings here for those who will devote their chief attention to them.

On the Pribilof Islands there is much waste matter that the government is now undertaking to utilize. But the government is always glad to welcome private enterprise in the development of Alaska's resources and by application to those in charge, openings might be found. For instance, the tough, leathery throats of the fur seals can be used in the manufacture of card cases and other small articles. There are quantities of these throats on the

islands and a business opening awaits for some one who will make use of them.

Recently upon the Pribilof Islands large deposits of bone have been found suitable for fertilizers. These are said to be the largest known bone deposits in the world. Six thousand tons are in sight on the surface and the government is desirous of contracting with private parties for their utilization.

The development of the water power of Alaska has scarcely begun. In many places in Alaska are great water power resources due not only to rain, especially in the southeastern part, but to the mountain streams fed by the glaciers and snows that everywhere crown and clothe Alaska's countless mountains. One such enterprise is already started near Juneau but there is opportunity for many more and just as great need.

This project at Juneau holds a permit from the Forestry Department for the powers of Speel River, which are capable of a development of one hundred thousand horse power continuously throughout the year at a lower cost than anywhere else except Norway. It is estimated that the cost of generating power at Speel River will be approximately five dollars per horse power a year. When it is remembered that the cost of power for electrical chemical purposes at Niagara is fifteen dollars per horse power a year, and at Keokuk, Iowa, twenty-three dollars, it will be realized what advantages Speel River presents at the very outset. But, in addition, the various raw materials, such as lime, barytes, gypsum, copper and such things, are right at hand. Lime rock of excellent quality abounds in the neighboring mountains, and the iron sulphides now washed into the ocean by the mines at Juneau yield readily to treatment in electrical furnaces and are converted into sulphur for pulp mills and iron for foun-

dries, while from some of the concentrates of the mills, zinc and lead could be recovered as by-products.

Among the supplies of great interest to the gold mines of the Territory are cyanide and powder. The demand for cyanide will increase as the cost is lowered, as it can be by using Alaska's water power. With the price of cyanide reduced, the treatment of low grade ores becomes more profitable and the treatment of low grade ores is one of Alaska's needs.

This electric energy could be used also in the wood pulp industry and this is without doubt one of the coming industries of Alaska, and also in the drying of kelp for making fertilizer. The United States Bureau of Soils has established the fact that the great kelp beds of Alaska are an available and rich source of potash.

The Forest Service, in connection with the United States Geological Survey, has installed recording gauges on all the streams suitable for water power throughout southeastern Alaska. A complete record is kept of the flow of these streams and is published for the use of the public.

The kelp, which, as has been said, is found so prolifically in Alaskan waters, offers business openings for those interested in this industry. In the Orkneys kelp farms are quite a source of livelihood for the people.

The great timber resources of Alaska have scarcely been touched for business enterprises. In the interior the wood has been cut for fuel purposes. Along the coast there is here and there a sawmill. But no large timber industries have been started.

The most important of these is the paper pulp business, and the forests of Alaska afford a favorable field for the development of this much needed industry. The numerous deep bays and protected inland passages offer cheap

transportation, and good harbors for ocean-going ships. Many suitable shore sites for manufacturing plants with available water power are to be found, together with an abundance of timber that on account of size and quality is valuable chiefly for this industry.

There are many other openings in connection with the timber resources of the Territory. The fish canneries need packing boxes, and other fish industries need barrels. If these are brought from the States it means freight charges, besides the using up of space on the boats needed for the transportation of supplies not to be obtained in Alaska. These industries, therefore, would find a market right at hand for their products.

Cattle grazing in certain parts of Alaska is quite practicable. Native grasses grow abundantly in many places. These can be stored in silos for winter use. It is believed also that angora goats can be profitably raised. On Kodiak dairying can be carried on successfully. William Dall a half century ago prophesied that the Aleutian Islands would become a great dairying centre of the Pacific coast.

The raising of reindeer as an industry looms large. Stefansson believes it will in time be the leading industry of Alaska. There are almost unlimited grazing grounds for the deer, not only on the vast Arctic plain north of the Yukon and in the Seward Peninsula and to the north of this region, but also in the Kuskokwim country. Nuni-vak Island alone has a grazing area of approximately one thousand square miles and could support ten thousand deer.

There are many minor industries that can be developed and which the country needs. The tourist trade will undoubtedly increase rapidly in volume and there are openings in many lines that have to do with it. At such towns

as Ketchikan, Wrangell, Juneau, Skagway, Cordova, a thriving business will undoubtedly grow in providing side trips for tourists. At all these towns are beautiful bays and inlets and passages not reached by the large steamers but well worth a visit. If small boats, either gas launches or sail-boats, were available at moderate prices, a thriving business of this sort could be developed. Tourists would make these towns their headquarters if they could get about to neighboring points easily and if a sojourn were made attractive for them. Many of these towns, which came into life as a result of the gold rush and whose prosperity passed away with the disappearance of the stamperders, could be as busy and successful during the summer season as a tourist resort as the popular places of the Atlantic coast. They have far more to offer in natural advantages.

The wild fruits that grow in such abundance could be utilized for preserves, jellies and jams. Such an industry would become even more profitable if Alaska's tin could be smelted and made into cans right in the Territory.

The volcanic ash to be found in many places is an excellent basis for cleansing agents. It can be had for the taking. Here, again, cans are needed, but wood, water power and other essentials are at hand.

Alaska has a wonderful future commercially. In addition to its own present home industries and the many that will develop, it will derive much benefit from the trade that will come to Seattle from Siberia. The shortest route to the north Pacific ports on the Asiatic side is by way of the Aleutian Islands. Russia has already sent representatives to look into the practicability of the route to the Kara Sea through the North Pacific Ocean. Radio stations will be established for the guidance of steamers that will ply permanently over this route.

Of this trade Mr. J. L. McPherson, of the Alaska Bureau of the Seattle Chamber of Commerce, says in an article entitled "*Alaska, the Meeting Place with the Orient*":

"Alaska, situated at the cross roads of the Pacific, midway between the great ocean ports of America and Asia, on the great circle and shortest ocean route, occupies a position of vital importance in the building of the great trade of the future between these countries.

"The great circle route passes to the north of the southern islands of the Aleutian chain, but as the waters tributary to these islands are in part unsurveyed, the vessels now keep to the south of these islands. When this area is surveyed and aids to navigation installed, the shortest trans-Pacific route will cross north through the Aleutian Islands at Unimak Pass and back again to the south in the vicinity of Atka Island, the most western island of Alaska. A large coaling station will be located at Unalaska Bay to furnish a fuel supply from Alaska's great coal deposits, and at this point will grow a trading centre of importance — a meeting place for the American and the Asiatic. A second coaling station will probably be installed further to the westward with suitable harbor facilities.

"In the great era of world trade following the war, our commercial opportunity will be with the East, Siberia and Asiatic Russia. This trade will not be ours without effort as we shall have able competitors with whom our rivalry must be friendly. Among these and more closely situated, as regards the southern and settled portions of Siberia, is Japan, with whom our business relationship must increase as the great trade of the Pacific expands. The business with this section of the East will be largely in manufactured articles. Where Japan has the raw

products, competition will in time become keen and we shall be obliged to effect all possible economies in the cost of production. One of the first factors of cost to be reduced will be transportation, and as a result the manufacturer will endeavor to locate his plant close to the source of his raw products and tidewater.

"Alaska is richly endowed with all raw products and all minerals required by the manufacturer. With the future expansion of this business it is very probable that the coast of Alaska will offer the most economical location for some of these plants, and that we will have in Alaska centres of manufacture as well as of trade for the trans-Pacific business.

"In the pioneer development of northwestern Siberia, Alaska is exceptionally favored because of her proximity to this section of Asia which enables her to furnish the necessary adjacent base to the building of this trade. Northwestern Siberia is practically unknown and with the exception of small trading posts is a vast unpeopled region. The early development of such a country necessitates a close base of operation, for the trade is small and large vessels cannot successfully handle the business.

"In early years, Nome developed a growing business with the Siberian outposts, which was carried on by schooners operating from Nome. This condition was only possible through the suspension of Russian customs' regulations. About 1907, the Russian government, appreciative of the great future possibilities of Siberia, adopted a policy which would result in Russianization of all phases of this development. As there is no customs' office north of Petropavlosk on the Kamchatka Peninsula, a distance of more than fifteen hundred miles from Nome, the Russian government only had to enforce the customs' regulation to stop the business that Nome was gradually

building with these Siberian outposts, a business which Nome and the Alaskan people were especially fitted to handle as they had become experienced through handling like trade with the outposts of Alaska.

“ In order to further the Russianizing of this development, the Russian government subsidized a line of steamers to operate during the open season from Vladivostok north along the coasts of Siberia. As this distance is great and required an enormous tonnage of coal to furnish fuel for the round trip, and as the freight requirements of these small trading posts were limited, the venture proved a failure. After two or three seasons this unprofitable service was discontinued. The more settled portion of northern Siberia, in Yakutsk province, facing the Arctic Ocean, was entirely shut off from communication with the outside, except by a long, overland journey across the wastes of Northern Siberia, a journey that had to be made by pack trains in summer and by sleighs in winter. As a result of these conditions, this part of Siberia soon experienced a shortage of necessary supplies and materials.

“ The Alaska Bureau of the Seattle Chamber of Commerce presented these facts to the Russian Ambassador and Consul General Bogoiavlensky, who recommended to the Imperial government that the former trade conditions existing between Nome and Siberia again be permitted; that absolute free trade between Alaska and the northern and western shores of Siberia be allowed; and that south of Cape Navarin, all government agents be ex-officio customs' officers, which would result in practically the same measure of free trade as extended to the northern portions. Shortly after these recommendations reached Petrograd the Russian government was unseated.

“ With the establishment of more settled conditions in

Russia and Siberia, the Alaska Bureau will again make an effort to bring about a renewal of these former trade conditions which were found essential to the pioneer development of this isolated section of Siberia, and which was of material trade advantage to Nome, especially equipped as it is to successfully handle this business.

“Unless gold in paying quantities or some equally rich discovery is made to stimulate quick settlement, the growth of trade and transportation facilities in a new land is slow. The facilities which can be offered by Nome in building up this trade are of the greatest value in the development of Siberia. As this development grows and trade expands, it will become a field for larger opportunities which can be centred from more distant bases. When this time arrives we shall have as competitors Japan and other countries. If we shall have succeeded in handling this business during the early stages along equitable lines, we need have nothing to fear from this future competition.

“Alaska in her great future development will find an ever growing community of interests with Japan and the other great peoples of the East. America's outpost, Alaska, is Asia's nearest neighbor. Heretofore our community of interest has only been evidenced in the seal industry, but this is bound to extend to the great fishing industries, to an interchange of raw products, and to the building of a trade relationship, which under broad, tactful direction is bound to assume enormous proportions.

“In the building of this trade relationship and in the use of Alaska's great store of raw products, constant thought must be given to the future prosperity of Alaska and the welfare of her people.”

CHAPTER XXVIII

THE PRESENT COMPLICATED GOVERNMENT

ALASKA'S DEVELOPMENT HINDERED BY INADEQUATE AND CONFUSED LEGISLATION. INSTANCES OF INJUSTICE FROM WHICH PEOPLE SUFFER. PROPOSED REMEDIES. EARLY INDIFFERENCE AND MISGOVERNMENT. CHARLES SUMNER'S RECOMMENDATION. BENEFIT TO THE WHOLE COUNTRY OF JUST LEGISLATION FOR ALASKA.

As has been shown, Alaska is a wondrously rich country. Its development means industries and homes for the Territory itself and a great tide of useful and needed productions poured into other parts of the United States that will decrease the cost and add to the comfort of living.

But at present the development of Alaska is held up by the laws governing it.

Alaska's government is a motley affair. Franklin K. Lane, Secretary of the Interior, who understands the situation admirably, calls it a patchwork. Many of the laws that govern it are passed by Congress. There is a territorial government, but here again Congress holds the controlling power, for there are many federal restrictions and all laws passed by the home legislature must be transmitted to Congress and if disapproved by the legislative body at Washington they are void. To be sure, Alaska has a delegate at the national capital, but he has no vote; and to make an impression at Washington without a vote one must be a rare creature indeed. His is but a voice crying in the wilderness. Thus in its

practical working out, Alaska is largely governed from Washington. But Washington is busy with many problems that seem more important than Alaskan affairs, and so Alaska receives little interested attention. The adage of Russian days is not inapt, "Heaven is high and the Czar is distant." So far as any real understanding of its needs and conditions is concerned by the major part of those who control its legislative destiny, Alaska is in much the same condition to-day that it was during the time of the Russian occupancy.

This distant lawmaking, inefficient as it is, is not all of the maladministration of Alaskan affairs. Many departments and bureaus have the carrying out of the laws passed. This results in almost inextricable confusion.

There is a government for certain public lands and forests, another for other lands and forests. There is one procedure for making homestead, mineral and other land entries within the national forests; another procedure for making such entries in land outside the forest reserves.

Certain islands along the southern coast of Alaska may be leased for fox farming by the Department of Commerce; adjoining unreserved islands may not be leased, but may be acquired under the general land laws from the Department of the Interior. Still other islands are reserved for special purposes under the control of the Department of Agriculture.

Vast areas in the forest reserves are entirely untimbered, but are held under the regulations of the Forest Service, while timbered lands in other sections are unprotected. Some of the timbered islands off the coast are included within the forest reserves. Other islands equally well timbered are not.

Homesteads within the forest reserves are surveyed

by the Forest Service without cost to the entryman. Homesteaders on unsurveyed lands outside the Forest Reserves must pay for their own surveys. It has happened that three separate investigations of mineral claims have been made by field officers of the Forest Service, Land Office and Geological Survey.

Roads and trails within the Forest Reserves are built by the Forest Service. Roads and trails outside these reserves are built by a commission of army officers. Still a third department having charge of road building has now been established by the Territorial Legislature.

The appalling confusion that must necessarily follow from such overlapping authority on some questions and no authority at all on some others leads to all sorts of complications.

A citizen who wanted to lease an island for fox farming carried on a correspondence with three different departments for several months in an effort to learn which had jurisdiction and authority to make the lease. It was finally decided that none of them possessed this authority.

It has taken as long as three years for a patent to be issued in uncontested land claims merely because of the lengthy procedure involved in securing the proper filling out of papers. Where any question arises over an entry which prevents the local register and receiver from issuing a final certificate, the papers in a homestead case after final proof is offered, must make at least two round trips between Washington and Alaska before patent can issue. If there is any contest, or any complication arises out of the claim, this long distance correspondence may be almost indefinitely extended.

An example of this is seen in the experience of a homesteader near Haines. He built a house and established residence in 1902. His claim was on unsurveyed

and unreserved public lands. In 1908 he applied for a survey which he secured. In 1909 he made the necessary filing at Juneau and waited for his patent. In 1910, not having received it, he wrote the Commissioner asking about it. He received a reply stating that action had been deferred, waiting instructions from Washington. Later, the Commissioner referred the claim to the Geological Survey, asking information as to whether any coal or petroleum deposits were embraced in the entry.

In 1911 the Director of the Geological Survey wrote the Commissioner that no survey of the land had been made and that there were no data on the subject, but that he believed no deposits of coal or petroleum occurred in that vicinity.

Finally the homesteader became anxious and wrote to the delegate at Washington, requesting his aid. The delegate wrote to the Commissioner in Alaska and was informed that the lands embraced in this entry had been withdrawn for examination for coal and petroleum and that action would be taken on this entry as soon as information about the coal and petroleum was received.

At last the homesteader received a patent nine years after he had settled on the land and after making his own survey at a cost of \$700.00. It will be noted that though action was deferred for some time pending determination as to whether or not the land contained coal or petroleum, there was no field investigation of any kind and that when the patent was finally issued the Land Office really had no more actual information concerning the nature of the land than when the patent was first asked for.

Patent for a mineral claim was four years in being secured, the papers making several trips between Alaska and Washington, and the Forestry Service, the Department of the Interior, and the Department of Agriculture,

as well as the Land Office, all having to take a hand in the matter. Had such work been centralized in Alaska under one bureau, the patent could have been secured in a few months.

On the Aleutian Islands all matters relating to wild birds and game and the propagation of reindeer and fur-bearing animals are under the immediate jurisdiction of the Department of Agriculture; all matters pertaining specifically to fisheries and all aquatic life and to the killing of fur-bearing animals are under the Department of Commerce; all matters other than these are under the charge of the Departments of Agriculture and Commerce. When it is remembered that the reservation is more than a thousand miles in length and that it is visited by a steamer about twice in a summer, it can be seen that the unfortunate inhabitant who sends a request for a permit to the wrong department may wait a year or more before he even discovers he has made a mistake. Several years may pass before he gets the permit for the work he may wish to undertake.

This confusion and delay means loss both to the settler and government and greatly hampers the development of the Territory.

There is as much interlocking, and consequently as great confusion in the administering of the game laws. The Department of Agriculture, the Department of Commerce and the Bureau of Fisheries all have to do with the game of the country, yet when an agent of the Bureau of Education reported to Washington the discovery of a wholesale slaughter of walrus which would menace the food supply of the natives, it was decided by the Department of Agriculture that the killing was illegal but that there was no government machinery to prevent it.

Another instance of this confusion in the application

of the game laws is seen in the now historic incident of the black and brown bear. The brown bear is a game animal under the control of the Department of Agriculture, while the black bear is recognized by the law as a fur-bearing animal under the jurisdiction of the Department of Commerce. But very frequently black bears have brown cubs and to decide just to which department the care of a little brown cub belongs would necessitate a journey on the part of the game warden to the home of papa and mamma bear and a grave inspection of their color. If they happened to be the big Kodiak brown bear and resented such unwarranted intrusion upon family life — well, it is easy to see that the life of a game warden in Alaska might be all a bear and no skittles.

Nor is this interlocking and overlapping of many governmental bureaus the only cause of confusion. In the individual department there is much distraction. The Land Office, one of the most vital to the fullest development of Alaska, is a fair sample. The administration of laws here is not plain and simple. They need many constructions to arrive at their meaning. And the regulations and reservation orders are many, ambiguous, and not known to the settler.

A mere list of some of these reservations suggests the labyrinths of technicality the settler may unconsciously wander into. Reservations as to specific areas are of the following kinds, though this list by no means includes all:

For the purpose of protecting breeding grounds for native birds.

For the propagation of reindeer and fur-bearing animals and their protection.

For the encouragement and development of fisheries.

For the propagation of foxes and the protection of seals.

For the protection of moose.

For the experimental work of the Department of Agriculture.

For the conduct of the work of the Bureau of Education.

For the benefit of the Indian.

For the establishment of sanitoriums.

For the protection of certain grounds used by the Indians for fishing.

For National Forest interests.

For military and naval need.

For power, reservoir, town-site, recreation, lighthouse requirements.

For landing places for Indian canoes and other of their craft.

For special timber necessities in connection with the building of railroads.

For Forest Administrative sites.

For areas surrounding hot springs and springs valuable for curative and medicinal properties.

For National monuments.

For the construction of fish hatcheries.

For particular fish streams and their catchment basins.

For rights of way for road purposes along shore lines.

For lands containing coal, oil and petroleum.

For all streams used by merchantable sea-going fish, either for spawning grounds, or as a passage to spawning grounds.

For streams which may be used for commercial purposes such as the transportation of light water craft, logs and so forth.

As can be seen, these reservations are rather appalling to the man or woman contemplating taking up a homestead, and though decision in regard to some is simple,

others, such as those on navigable streams and those used by sea-going merchantable fish, may lead the land claimant into contact with two or three departments, the several bureaus concerned, the local officers in Alaska, and the legal officers of the departments and bureaus, until the mass of decision and correspondence that ensues astounds the settler and probably so confuses him that he will not take up the land.

In fact, there is a degree of uncertainty attending the perfection of a title to land with the exception of mining claims, and as to what areas are subject to appropriation, that discourages if it does not prevent the taking up of land by settlers.

The conservation laws present another field in which Alaskans believe reforms are necessary. There is no confusion or interlocking of authority here, but there is, from the point of view of the Alaskan, prohibition. The feeling in Alaska in regard to the coal situation runs higher perhaps than on any other subject. The tensivity is shown by the fact that several years ago, the citizens of Cordova dumped a quantity of Canadian coal from the wharf as a protest against regulations that compelled them to buy fuel from a foreign country when there was an abundance of it almost under their feet. This incident has gone down in Alaskan history as the Cordova Coal Party.

The Alaskan contends that the present leasing system for coal lands is equivalent to absentee landlordism, which has never proven a success anywhere; that at present the owners of the coal lands, or in other words, the government, is far away and knows little of the actual conditions in Alaska. That there is little personal knowledge of Alaska among the law makers in Washington and likewise little generally enlightened public opinion about it

to demand intelligent action on their part, is a matter of history. In 1900, when the law-making body at the national capital felt something must be done to appease the indignation of Alaskans at the neglect and indifference shown for their needs, an act was passed extending to Alaska the provisions of the United States' coal laws. According to these coal laws, none but subdivided, marked and platted lands could be taken up by a claimant. Yet at that time there was not a land survey in the whole of Alaska. This is but one sample of many that shows the kind of treatment Alaska has had at the hands of the legislators at Washington. So that absentee landlordism in regard to the coal lands does not appeal to the people of the Territory, who are on the ground and know that intimate personal knowledge is needed to frame proper legislation about the important question of coal.

Alaskans further contend that many of the present specific government regulations about the mining of the coal are impracticable, and that others, so far as actual operations go, take the management of the business out of the operator's hands to such an extent that no experienced coal man would undertake to mine coal under the lease the government gives, with any hope of having an assured and profitable business; or, in other words, that the coal operator under a government lease is at the will and whim of the legislators in Washington, and that knowing their ignorance of Alaskan affairs, he feels his business would be on an exceedingly unstable foundation.

An editorial in the *Alaska Daily Empire* of Juneau well voices the sentiments of Alaskans on this point. It says, "The resources of Alaska are not valuable to the government from a landlord's standpoint. They are only

valuable to the government and the people of the United States when utilized and giving profitable employment to men and women who thereby are given opportunity to add to the producing and consuming powers of the country, and to the volume of its industry and trade. Alaska is most valuable to the United States in the market which she affords for \$30,000,000 or more of their products, and the gold, foodstuffs and other products which she sends for their use. Every year that Alaska's resources are kept locked up is therefore a year of waste.

"If title to the resources of Alaska is to remain in the Federal government, no territorial or State legislature or referendum to the people within the present Territory of future State or States can have any authority over them. Federal ownership means Federal government, —government from Washington. Private property is subject to the laws and will of the commonwealth, therefore private ownership means control by the people who live in the vicinity of the resources and know what they mean and how they should be utilized for the good of the public. Government from Washington means government by those who are aliens as far as Alaska is concerned, —government by those whose interest in Alaska is a theory. Self-government means government by those who are vitally interested in the Territory and circumstances and conditions surrounding it, and who have knowledge gained of interest and experience."

Over against these views of home rule are the beliefs of the adherents of the present system, who maintain that it is intended as a safeguard against monopoly, and to keep the coal and other resources now conserved in the hands of the people, so that supply and cost to them can always be regulated for their own benefit; that the regulations governing the mining are no more severe than

many state laws governing this industry and that the man who wants to do what is honest and just has nothing to fear from government supervision.

The oil lands have been completely withdrawn and until some legislative action is taken in regard to them, they are absolutely useless, and all the various petroleum products that Alaska needs, and of which her consumption is great, must be shipped in.

The folly of this sort of conservation and how it affects not only Alaska but the welfare of the whole country was brought out during our war with Germany by Mr. Peabody, Chairman of the Committee on Coal Production of the National Council of Defense. He said, in a hearing before the United States Senate:

“Any laws that can be passed that will loosen up the reserve fuel and oil supplies of Alaska should be adopted. We are shipping every ton of coal we can possibly send to the West coast. It takes ninety-two days for a car to go from the eastern coal fields to California and return. It is a most horrible misuse of equipment.”

The Alaskans do not wish the resources of the Territory to be monopolized or wasted, any more than do the legislators at Washington, who say that in all these conservation measures they are merely saving these valuable resources for the people. But as ex-President Taft has said, “Conservation does not mean complete withdrawal,” which is the practical result of present laws, and Alaskans want these laws so amended that though this wealth is preserved from monopolies it will still be of use to the people. At present, monopolies are really being served by the conservation laws, for this great wealth of Alaska cannot be put on the market to keep prices down.

The Alaskans maintain that these matters can be

attended to through their own legislative body more intelligently than they can be attended to in distant Washington.

The legislative power of the Territory itself is vested in a Territorial Legislature consisting of a Senate and a House of Representatives. The Senate consists of eight members, two from each of the four judicial divisions into which Alaska is now divided. The House of Representatives consists of sixteen members, four from each of the four judicial divisions. The term of each member of the Senate is four years, one member from each judicial division being elected every two years. The term of each member of the House of Representatives is two years.

The legislature convenes biannually at Juneau on the first Monday of March in odd years, and the length of the session is limited to sixty days, but the governor is empowered to call an extra session.

The executive power is vested in the governor, who is appointed by the President for a term of four years by and with the advice of the United States Senate.

That Alaskans are quite fit to govern themselves properly is shown by the first acts passed by the Territorial legislature, which included women's suffrage, prohibition, and appropriations for schools, roads, humanitarian purposes, the national defense and fish hatcheries. Under Federal control, many schools were closed during the winter. Now that the Territory has taken up their maintenance they are kept open the entire school year. Such legislation does not seem like the work of those incapable of managing their own affairs, and points to a government that would work to the best interests of the Territory were it given a freer hand.

That something should be done to straighten out this



THE MEETING OF THE OLD AND THE NEW

confusion and interlocking of authority all who have the interests of Alaska at heart are agreed. If the Territory is yet too young to be entirely trusted, a directorate has been suggested as an improvement upon present methods. Secretary Lane has sponsored this end of it. He says :

“ Alaska’s remoteness alone makes anything like supervision by bureaus located at Washington more or less perfunctory and superficial. What we now have in Alaska is little more than a number of independent and unrelated agents, acting largely upon their own initiative, each attending to some special branch of police work, and no branch adequately organized to cope with its own problems without even attempting to coördinate its work with that of the other branches.

“ But the task of administering the laws relating to the disposal and development of the public domain and resources in Alaska is also a task of construction. The problem is the settlement and development of the country and of all its resources to the best advantage. Each branch of work now under a different supervision is a part of one and the same problem. It is a huge task that is ahead, but it is a single task and to undertake it successfully it must be put into the hands of a single authoritative directorate.

“ To secure effectiveness, we must eliminate the shortcomings of the present system, its delays, red tape, circumlocution, divisions and overlapping of authority, and ineffectiveness, as well as the discouragements it offers to settlers whom we want to encourage, and substitute machinery that will be direct, prompt and certain in its operation.

“ The members of the proposed development board would be appointed by the President and approved by

the Senate. Their salaries would be sufficient to enable men of ability to devote themselves exclusively to the work in hand. This board would have its headquarters in Alaska and its members would live in the Territory. It would have authority to appoint its own agents and to supervise their work. The board would make its reports and be directly responsible for its actions to a single cabinet officer, the Secretary of the Interior, whose department is most closely identified with Alaskan affairs and probably best equipped by experience and organization to handle such matters.

“It is proposed and urged that the Board should take over such authority, now exercised by various departments and bureaus, as may be necessary to give it supervision over practically the entire public domain and all the natural resources of Alaska, and control of such activities as are closely related and essential to the development of the physical resources of the country.

“It is doubtful if the proposed consolidation of Alaskan administration agencies should make any change in the work of purely scientific and investigative bureaus, whose activities in Alaska are not localized, and are carried on with the same organization and machinery, and as a part of general work of national meaning and application, which necessitates highly expert knowledge, equipment and coöperation. The information and results attained by these bureaus should be placed in the hands of the Development Board for local use and application, just as it is placed in the hands of State and local administrative authorities elsewhere for application and use.

“It is not suggested of course that there should be any change in the authority or activities in Alaska of the Department of Justice, the Treasury or the Post Office

Departments, or the general functions of the Army or Navy Departments there. Collection and delivery of the mails, collection of the public revenue, maintenance of the Army and Navy and armed defenses, are functions so purely national in scope, regardless of where any particular act in connection with them may be performed, that there would be no justification for suggesting division of these duties, more than there would be for suggesting that the cost of any of these services should be locally apportioned and assessed. Good mail service in Alaska is as important to the people of all the States as to their correspondents in Alaska. Although the Army and Navy Departments may spend large sums of money for the defense of Alaska, these expenditures should no more be charged to the Territory locally than to Maine or Florida.

“From time to time new laws and new policies must be adopted by Congress to enable the fullest fruition of the promises of Alaska. Under present conditions we have recommendations from numerous sources for changes in the laws and policies. These recommendations have to do, usually, with only a single phase of the big problem of how the country may best and quickest be developed. Each bureau or department charged with only certain duties and responsibilities, recommends changes in the laws affecting the particular function it performs. There is no place where these various changing needs of the country are brought together, correlated and framed into a consistent, workable, general program or policy, which considers in all its aspects the needs of the whole country. Such a duty the proposed Board would perform.

“Alaska can be made self-supporting within a very few years, as soon as conditions are created which will

enable settlement and development and produce revenues. So far, the government has done little, aside from care of the seal herd, to bring returns. It is unreasonable to expect revenue from an undeveloped and unsettled country.

“With disbursements and receipts passing through one and the same channel, with a broad concept of needs and conditions on the part of a single responsible body, and with revenues and expenditures reported to and by this Board, there could be presented to Congress each year a comprehensive Alaskan budget which should make legislation simpler and more intelligent.

“But Alaskan resources must be dealt with as a whole, as a single problem of large management.”

This idea of a centralized local body is surely a step forward. It would efficiently and at once put affairs in the Territory on a business basis, and until the time that the government at Washington feels that the Territory could assume full management and responsibility, it would certainly direct Alaskan affairs better than they are being handled at present.

Mr. J. L. McPherson, Secretary of the Alaskan Bureau of the Seattle Chamber of Commerce, in speaking of the government Alaska needs, says:

“Alaska, ‘the land of gold,’ is to-day a land of food and metals. Last year the Alaska production in metals was greater in value than that produced in the state of California, while in fish food Alaska produced in excess of the combined production of Washington, Oregon, British Columbia and California. Alaska, in 1917, shipped out products of a value in excess of \$97,000,000, over four times its greatest gold production for any one year.

“Despite this wonderful showing, and the fact that

the government was employing over five thousand men in the construction of the Alaskan government railroad, the population of Alaska declined over four thousand, a condition unknown in the development of any country in the world's history. There is a reason for this decline of population and a remedy. The reason is that our present policy toward Alaska's development is a policy of restriction, instead of the policy of encouragement necessary to the upholding of a frontier land. We are simply creaming the rich resources of Alaska without doing anything towards an industrial development and the building of a permanent citizenry. Under such conditions, Alaska can never be other than a source of national weakness. Her enormous resources are already proven so great as to warrant a strong prosperous citizenry that will make Alaska a source of ever increasing national strength.

"The remedy can be briefly and concisely stated :

"First — The full measure of home rule accorded to all the western Territories. No frontier people ever demonstrated their ability to govern themselves as have the people of Alaska.

"Second — Coördinated direction of the administrative functions of all Federal bureaus having to do with Alaskan resources. These functions cannot be directed by men at desks four thousand to six thousand miles distant, who know nothing of Alaskan conditions.

"Third — The enactment of laws affecting land titles and the development of Alaska's resources that will encourage rather than restrict — laws that are only open to one construction; that will protect against monopoly and that will provide for the development of Alaska's rich resources, so as to assure a strong and prosperous citizenry."

From the very beginning of government control, Alaska has received inadequate and unintelligent attention. Its purchase was widely jeered and hooted. It was called Icebergia, Walrussia, Polaria and other contemptuous names. "What shall we do with it? Make it a penal colony?" was asked. And so great was the misapprehension about it that an editor of a leading paper said, "No energy of the American people will be sufficient to make mining profitable in sixty degrees north latitude. Ninety-one one-hundredths of the territory is absolutely worthless."

For thirty years the country had practically no government. At first a military governor was appointed and a few troops were sent to the Territory. Later, these were withdrawn. During this period when an outbreak from the Indians was feared in the southeastern part, the British government was called on for aid.

In 1881 so dire was the extremity of the settlers that the following appeal was sent to Congress by the residents of the southeastern part: "There are no courts of record by which title to property may be established or conflicting claims adjudicated, or estates administered, or naturalization or other privileges acquired, debts collected or the commercial advantages of laws secured. Persons accused of crimes or misdemeanors are subject to the arbitrary will of a military or naval commander, thrown into prison and kept there for months without trial, or punished by imprisonment upon simple accusation and without verdict of a jury."

Despite the clear picture of injustice and neglect here presented little was done. In 1883, Alaska was still but a customs district with a collector and a few deputies. The laws were but the regulations made by the Secretary of the Treasury, and for protection the people had to

depend upon a single war vessel, the crew of which often had to perform police duty among the settlements of the Alexander Archipelago.

Finally a bill was passed in Congress by which a civil government was given. A governor was appointed, a district court established and four commissioners named. But actual beneficial results were almost nil. It was not until the Klondike rush that the government at Washington really took Alaska seriously. Even then comparatively little was done in comparison with the need. It is only within the last decade that any legislative action worthy the name has been taken and this is so limited in contrast with what is required, and, as has been shown, so confused and contradictory, that it yet does not measure up to what Alaskans feel they should have.

In his great speech in the Senate, when the purchase was under discussion, Charles Sumner said:

“Your most important endowment will be the republican government, a source of wealth more inexhaustible than fisheries. Bestow such a government and you will bestow what is better than all you can receive, whether quintals of fish, sands of gold, choicest of furs, or most beautiful of ivory.”

A republican government in its democratic American sense is what Alaska needs. Given this, it will generously make a return that will enrich the world. But until it does receive legislative justice there should be no cessation in the agitation for the improvement of present methods. The people of the whole country, by an intelligent interest in the matter and an insistent demand, can help forward the work. It is to their advantage to do so, for what helps one helps all. The honest and constructive development of Alaska's resources will benefit every citizen and every section of our great country.

THE END

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